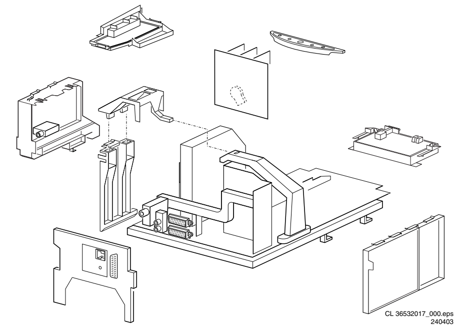
Colour Television **28PW9528/12** **Chassis**

EM5.1E
AA

Service
Service
Service



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1. Technical Specifications, Connections and Chassis Overview

1.1 Technical Specifications

1.1.1 Vision

Display type : CRT, Real Flat WS
Screen size : 28” (70 cm)
: 32" (82 cm)
: 36” (92 cm)
Tuning system : PLL
Colour systems : PAL B/G, D/K, I
: SECAM B/G, D/K, L/L’
: NTSC playback only
Channel selections : 100 presets
: UVSH
Aerial input : 75 ohm, IEC-type

1.1.2 Sound

Sound systems : FM-mono
: AM-mono
: FM-stereo B/G, Czech
: NICAM B/G, D/K, I, L
Maximum power : 4 x 15 W rms (int.)

1.1.3 Miscellaneous

Mains voltage : 220 - 240 V
Mains frequency : 50 / 60 Hz
Ambient temperature : +5 to +45 deg. C
Maximum humidity : 90 % R.H.
Power consumption : ?
- Normal operation : ≈ 130 W
- Standby : < 1 W

1.2 Connections

1.2.1 Front View / Side Connections

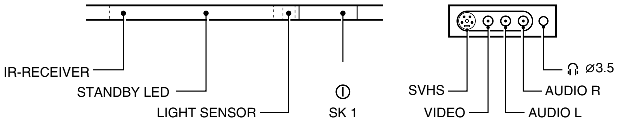

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Figure 1-1 Front View and Side I/O

Hosiden: SVHS - In

1	- Y	Ground	⏚
2	- C	Ground	⏚
3	- Y	1 Vpp / 75 ohm	→○
4	- C	0.3 Vpp / 75 ohm	→○

Cinch: In

1	- CVBS	1 Vpp / 75 ohm	→○◎
2	- Audio - L	0.5 Vrms / 10 kohm	→○◎
3	- Audio - R	0.5 Vrms / 10 kohm	→○◎

Mini Jack: Headphone - Out

- Headphone	32 - 600 ohm / 10 mW	◎ 3.5mm / 🎧

1.2.2 Rear Connections

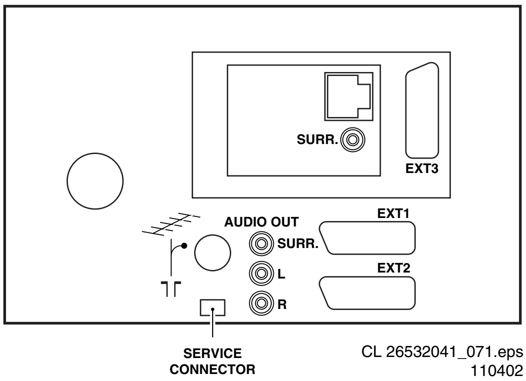

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Figure 1-2 Rear View

Aerial - In

- IEC-type	Coax, 75 ohm	╗╔

Cinch: Audio - Out

- Audio - R	0.5 Vrms / 1 kohm	○→◎
- Audio - L	0.5 Vrms / 1 kohm	○→◎

External 1: RGB/YUV and CVBS - In/Out

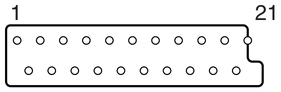

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Figure 1-3 SCART connector

1	- Audio - R	0.5 Vrms / 1 kohm	○→
2	- Audio - R	0.5 Vrms / 10 kohm	→○
3	- Audio - L	0.5 Vrms / 1 kohm	○→
4	- Audio	Ground	⏚
5	- Audio	Ground	⏚
6	- Audio - L	0.5 Vrms / 10 kohm	→○
7	- Blue / U	0.7 Vpp / 75 ohm	→○
8	- CVBS-status	0 - 1.3 V: INT 4.5 - 7 V: EXT 16:9 9.5 - 12 V: EXT 4:3	
9	- Video	Ground	⏚
10	- n.c.		
11	- Green / Y	0.7 Vpp / 75 ohm	→○
12	- n.c.		
13	- Video	Ground	⏚
14	- Video	Ground	⏚
15	- Red / V	0.7 Vpp / 75 ohm	→○
16	- Status / FBL	0 - 0.4 V: INT 1 - 3 V: EXT / 75 ohm	→○
17	- Video	Ground	⏚
18	- Video	Ground	⏚
19	- CVBS-out	1 Vpp / 75 ohm	○→
20	- CVBS-in	1 Vpp / 75 ohm	→○
21	- Shielding	Ground	⏚

External 2: CVBS and SVHS - In (for VCR)

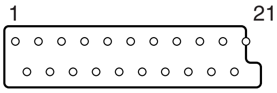

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Figure 1-4 SCART connector

1	- Audio - R	0.5 Vrms / 1 kohm	○→
2	- Audio - R	0.5 Vrms / 10 kohm	→○
3	- Audio - L	0.5 Vrms / 1 kohm	○→
4	- Audio	Ground	⏚
5	- Audio	Ground	⏚
6	- Audio - L	0.5 Vrms / 10 kohm	→○
7	- C-out	0.7 Vpp / 75 ohm	○→
8	- CVBS-status	0 - 1.3 V: INT 4.5 - 7 V: EXT 16:9 9.5 - 12 V: EXT 4:3	
9	- Video	Ground	⏚
10	- Easylink	(P50)	→○
11	- n.c.		
12	- n.c.		
13	- Video	Ground	⏚
14	- Video	Ground	⏚
15	- C-in	0.7 Vpp / 75 ohm	→○
16	- n.c.		
17	- Video	Ground	⏚
18	- Video	Ground	⏚
19	- CVBS-out	1 Vpp / 75 ohm	○→
20	- Y / CVBS-in	1 Vpp / 75 ohm	→○
21	- Shielding	Ground	⏚

External 3: RGB and CVBS - In

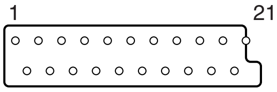

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Figure 1-5 SCART connector

1	- n.c.		
2	- Audio - R	0.5 Vrms / 10 kohm	→○
3	- n.c.		
4	- Audio	Ground	⏚
5	- Audio	Ground	⏚
6	- Audio - L	0.5 Vrms / 10 kohm	→○
7	- Blue-in	0.7 Vpp / 75 ohm	→○
8	- CVBS-status	0 - 1.3 V: INT 4.5 - 7 V: EXT 16:9 9.5 - 12 V: EXT 4:3	
9	- Video	Ground	⏚
10	- n.c.		
11	- Green-in	0.7 Vpp / 75 ohm	→○
12	- n.c.		
13	- Video	Ground	⏚
14	- Video	Ground	⏚
15	- Red-in	0.7 Vpp / 75 ohm	→○
16	- Status / FBL	0 - 0.4 V: INT 1 - 3 V: EXT / 75 ohm	→○
17	- Video	Ground	⏚
18	- Video	Ground	⏚
19	- n.c.		
20	- CVBS-in	1 Vpp / 75 ohm	→○
21	- Shielding	Ground	⏚

RJ45: Wireless Surround Transmitter - Out

1	- SDA2_TM	Signal	→○ ○→
2	- SCL2_TM	Signal	○→
3	- GND	Ground	⏚
4	- I2C_MUTE	Signal	○→
5	- 15V	Supply	○→
6	- AUDIO_ SL_S_TM	Signal	○→
7	- GND_AUD	Ground	⏚
8	- PILOT_MUTE	Signal	○→

Jack: Surround - Out

1	- Audio	0.2 - 2 Vrms / 10 kohm	◎ 3.5mm ○→

1.3 Chassis Overview

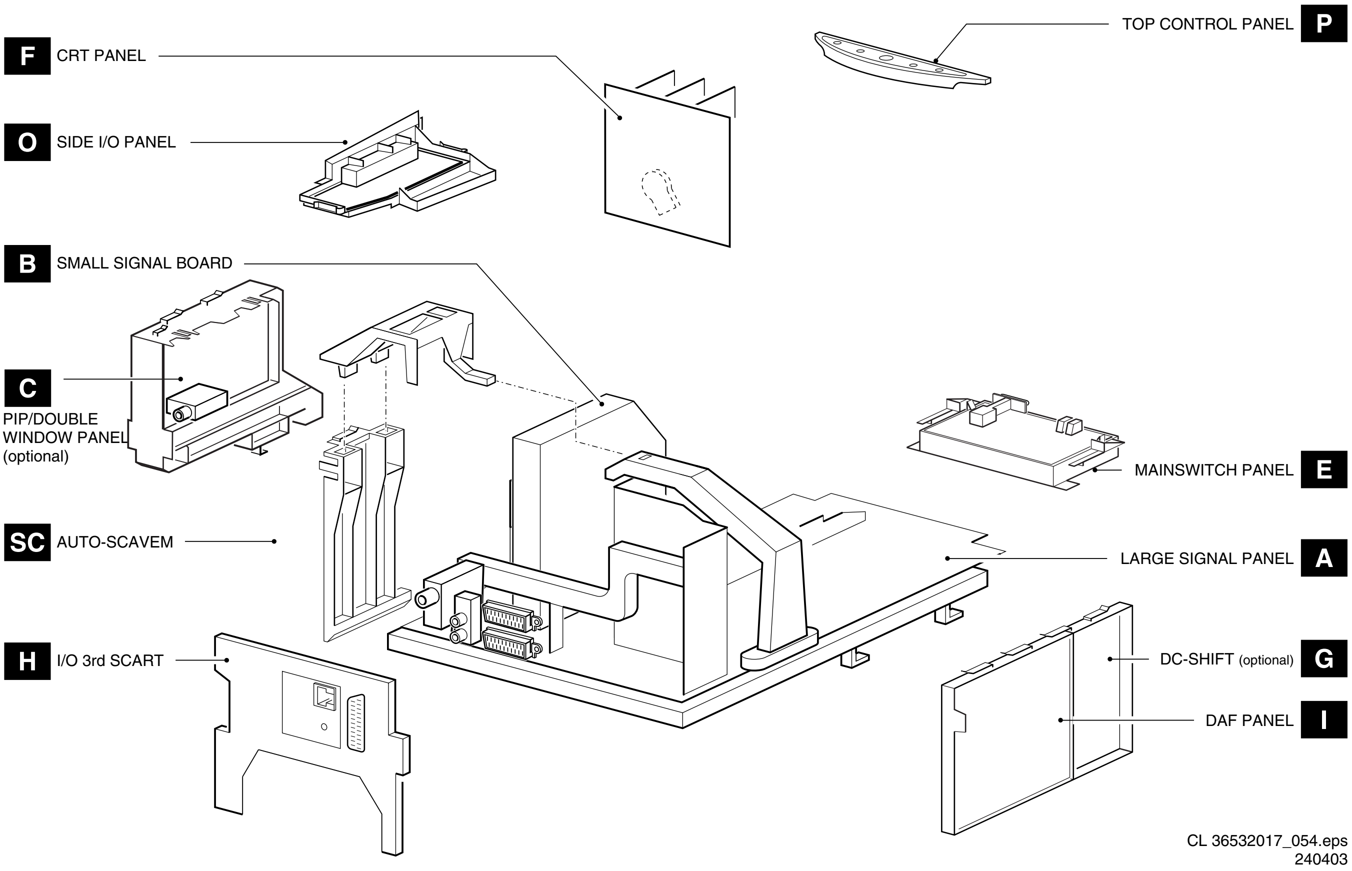
F CRT PANEL
O SIDE I/O PANEL
B SMALL SIGNAL BOARD
C PIP/DOUBLE WINDOW PANEL (optional)
SC AUTO-SCAVEM
H I/O 3rd SCART
TOP CONTROL PANEL P
MAINSWITCH PANEL E
LARGE SIGNAL PANEL A
DC-SHIFT (optional) G
DAF PANEL I
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Figure 1-6 PWB location

2. Safety Instructions, Warnings, and Notes

2.1 Safety Instructions

Safety regulations require that **during** a repair:

- Connect the Receiver box to the Mains via an isolation transformer.
- When you use the Receiver box in combination with a plasma monitor, do not operate the monitor without the front glass plate. One function of this glass plate is to absorb IR radiation. Without this glass plate, the level of radiation could damage your eyes.
- Safety components, indicated by the symbol ⚠, must be replaced with original components.

Safety regulations require that **after** a repair, you must return the set in its original condition. Pay particular attention to the following points:

- Route the wire trees in their original positions and fix them in place with the mounted cable clamps.
- Check the insulation of the Mains cord for external damage.
- Check the electrical DC resistance between the Mains plug and the secondary side (only for sets which have a Mains isolated power supply):
  - Unplug the Mains cord and connect a wire between the two pins of the Mains plug;
  - Set the Mains switch to the "on" position (keep the Mains cord unplugged!).
  - Measure the resistance value between the pins of the Mains plug and the metal shielding of the tuner or the aerial connection on the set. The reading should be between 4.5 Mohm and 12 Mohm.
  - Set the Mains switch to the "off" position, and remove the wire between the two pins of the Mains plug.
- Check the cabinet for defects, to prevent the customer from touching any inner parts of the television set.

2.2 Warnings

- All ICs and many other semiconductors are susceptible to electrostatic discharges (ESD symbol ⚠). Careless handling during repair can reduce life drastically. Make sure that, during repair, you are connected with the same electrical potential as the set by a wristband with resistance. Keep components and tools at this same potential. Available ESD protection equipment:
  - Complete ESD3 kit (small tablemat, wristband, connection box, extension cable and earth cable): 4822 310 10671.
  - Wristband tester: 4822 344 13999.
- Be careful while taking measurements in the live voltage section.
- Never replace modules, or other components, with the television set "'ON."
- Use plastic tools, instead of metal tools, when performing alignments on the television set. This will help prevent short circuits and reduce the danger of a circuit becoming unstable.

2.3 Notes

2.3.1 General

- Measure the direct voltages and oscillograms with regard to the chassis ground (symbol ⏚), or hot ground (symbol ⏚).
- The direct voltages and oscillograms shown in the diagrams are indicative. Measure them in the Service Default Mode (see chapter 5) with a colour bar signal and stereo sound (L: 3 kHz, R: 1 kHz unless stated otherwise) and picture carrier at 61.25 MHz (NTSC).
- Where necessary, measure the oscillograms and direct voltages with (symbol ⫪) and without (symbol ⫪̸) aerial signal. Measure the voltages in the power supply section both in normal operation (symbol ⏽) and in standby (symbol ⏻). These values are indicated by means of the appropriate symbols.
- The semiconductors indicated in the circuit diagram and in the parts lists, are interchangeable position with the semiconductors in the unit, irrespective of the type indication on these semiconductors.

2.3.2 Schematic Notes

- All resistor values are in ohms and the value multiplier is often used to indicate the decimal point location (e.g. 2K2 indicates 2.2 kohm).
- Resistor values with no multiplier may be indicated with either an 'E' or an 'R' (e.g. 220E or 220R indicates 220 ohm).
- All Capacitor values are expressed in Micro-Farads ($\mu = x10^{-6}$), Nano-Farads ($n = x10^{-9}$), or Pico-Farads ($p = x10^{-12}$).
- Capacitor values may also use the value multiplier as the decimal point indication (e.g. 2p2 indicates 2.2 pF).
- An 'asterisk' (*) indicates component usage varies. Refer to the diversity tables for the correct values.
- The correct component values are listed in the Electrical Replacement Parts List. Therefore, always check this list when there is any doubt.

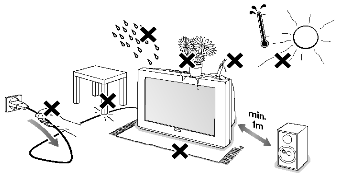
2.3.3 Practical Service Precautions

- **It makes sense to avoid exposure to electrical shock.** While some sources are expected to have a possible dangerous impact, others of quite high potential are of limited current and are sometimes held in less regard.
- **Always respect voltages**. While some may not be dangerous in themselves, they can cause unexpected reactions - reactions that are best avoided. Before reaching into a powered TV set, it is best to test the high voltage insulation. It is easy to do, and is a good service precaution.
- **Before powering up the TV set with the rear cover off** (or on a test fixture), attach a clip lead to the CRT DAG ground and to a screwdriver blade that has a well insulated handle. After the TV is powered on and high voltage has developed, probe the anode lead with the blade, starting at the case of the High Voltage Transformer (flyback - IFT). Move the blade to within two inches of the connector of the CRT. **If there is an arc, you found it the easy way, without getting a shock!** If there is an arc to the screwdriver blade, replace the part that is causing the problem: the High Voltage Transformer or the lead (if it is removable).

3. Directions for Use

Preparation

❶ Place the TV on a solid surface.
! 28PW9528: 41 kg; 32PW9528: 59 kg; 36PW9528: 79 kg !

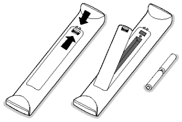


For ventilation, leave at least 5 cm free all around the TV. Do not place the TV on a carpet. To prevent any unsafe situations, do not place any objects on top of the TV. Avoid heat, direct sunlight and exposure to rain or water.

❷ Insert the aerial plug firmly into the aerial socket ╤ at the back of the TV. For best picture quality use the suppressor-aerial cable supplied.

❸ Insert the mains plug of the TV in the wall socket having a mains voltage of 220V-240V.

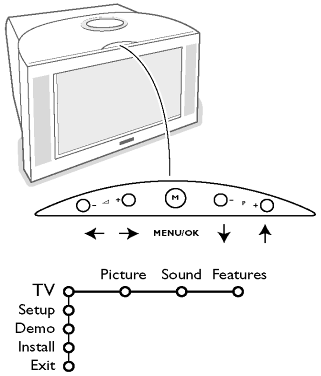
❹ **Remote control**: Insert the 2 batteries supplied (Type R6-1,5V).



The batteries supplied do not contain the heavy metals mercury and cadmium. Please check on how to dispose of exhausted batteries according to local regulations.

❺ **Switch the TV on** : Press the power switch ⏻ on the front of your TV.
An indicator on the front of the TV lights up and the screen comes on.
If the TV is in standby mode (red indicator), press the **-P+** keys on the remote control.

Keys on top of the TV



Should your remote be lost or broken you can still change some of the basic settings with the keys on top of your TV.

Press:
- the ◿ - or + key to adjust the volume;
- the **-P+** keys to select the TV channels or sources.

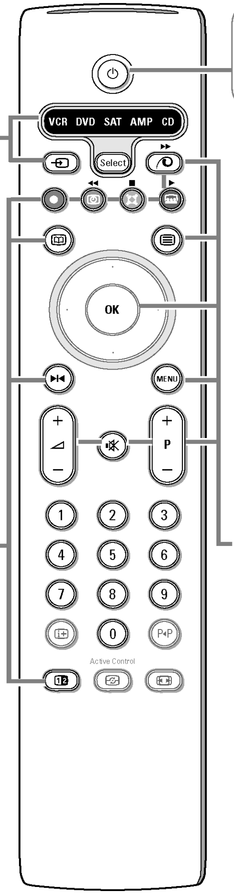
The **M** key can be used to summon the main menu without the remote control.

Use:
- the ◿ - and + keys and the **P-** and **P+** keys to select menu items in the directions as shown;
- the **M** key to confirm your selection.

Note:
*When activated via the **M** key on top of the TV, only **Exit** lets you dismiss the menu.*
*Navigate to **Exit** and press the **M** key.*

Use of the remote control RC4301

Note: For most keys pressing a key once will activate the function. Pressing a second time will de-activate it.
When a key enables multiple options, a small list will be shown. Press repeatedly to select the next item in the list.
*The list will be removed automatically after 4 seconds or press **OK** to remove immediately.*



⏻ Standby
Press to switch the TV on or off. When switched off, a red indicator on the TV lights up.

VCR DVD SAT AMP CD
Audio- and Video equipment keys, (p. 22)

⊕ **Select peripherals** (p. 21)

● ◀◀ ■ ▶ ▶▶
Audio- and Video equipment keys (p. 22)

● **Instant record**
See Record with your recorder with EasyLink, p. 22.

Time display
The time is displayed on the screen.

Surround mode
Press this key repeatedly to select another available surround mode.

Cinema Go
See separate Cinema Link booklet supplied.

NEXTVIEW on/off p. 16
Press 12 to show NEXTVIEW/ Teletext Guide on the right half of the screen.

▶◀ **Freeze/Replay/Photo finish**
To freeze the picture.
See also p. 9.

Pixel Plus demo on/off
In the right part Pixel Plus and Digital Natural Motion are switched on.

Teletext on/off see p. 18
Press the 12 key to show teletext on the right half of the screen.

OK Press this key
- to activate your choice, when in the menus.
- to display the programme list.

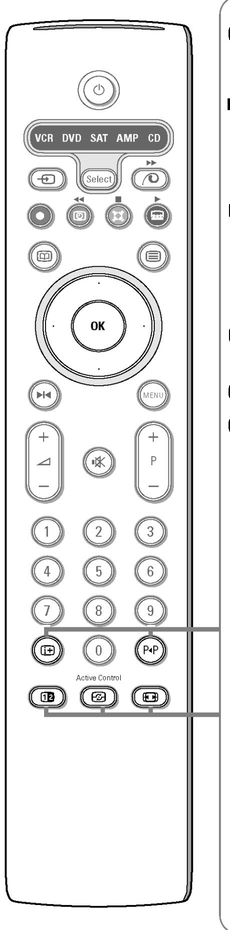
MENU Main menu on/off see p. 5

◿ To adjust the volume.

🔇 Interrupt the sound or restore it.

P Programme selection
To browse through the TV channels and sources stored in the favourite list.

0/9 Digit keys
To select a TV channel.
For a two digit programme number, enter the second digit before the dash disappears. To switch immediately to a selected one digit TV channel, keep the digit key pressed a bit longer.


VCR DVD SAT AMP CD
Select
OK
MENU
P
1
2
3
4
5
6
7
8
9
0
P◂P
Active Control

On Screen information

Press to display information about the selected TV channel and programme.

Menu/Remote control info

When a menu is on screen, press to display info on the selected menu item. For information on the remote control functions, while the menu info is displayed, press any key on the remote control.
The normal function of the key is not executed.

P◂P Smart surf / NEXTVIEW themes

With this key you can easily switch between 2 up to 9 different TV channels or sources or quickly select TV programmes if NEXTVIEW with defined themes is broadcast. See General, Smart surf, p. 9.
Press the **OK** key or wait for the time out to dismiss the Smart surf display.

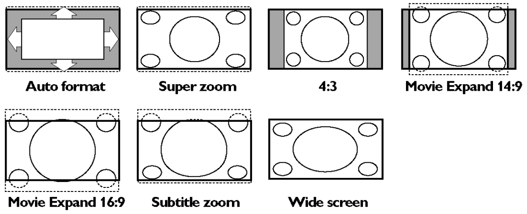
Dual screen / PIP / Multipip

See p. 9 and p. 14.

Active control see p. 11.

Picture format

Press this key repeatedly or press the cursor up/down to select another picture format: Auto format, Super zoom, 4:3, Movie Expand 14:9, Movie Expand 16:9, Subtitle zoom or Wide screen.

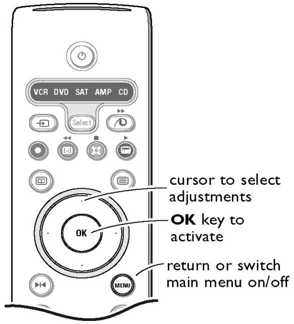

Auto format
Super zoom
4:3
Movie Expand 14:9
Movie Expand 16:9
Subtitle zoom
Wide screen

Auto format makes the picture fill the screen as much as possible.
In case of subtitles in the bottom black bar, Auto format makes the subtitles visible. If subtitles are only partly visible, press cursor up.
In case of a broadcaster logo in the corner of the top black bar, the logo disappears from the screen.

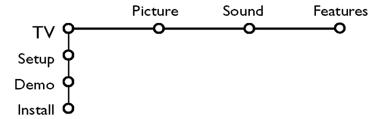
Super zoom removes the black bars on the sides of 4:3 programs with minimal distortion.

When in Movie Expand 14:9, 16:9, Super zoom or Subtitle zoom picture format, you can make subtitles visible with the cursor up/down.

To use the menus


VCR DVD SAT AMP CD
Select
OK
MENU
cursor to select adjustments
OK key to activate
return or switch main menu on/off

❶ Press the **MENU** key on the remote control to summon the main menu. At any moment you can exit the menu by pressing the MENU key again.
Note: If you have connected equipment with Cinema Link, more menu items are present.


TV
Setup
Demo
Install
Picture
Sound
Features

❷ Use the cursor in the up/down direction to select the **TV**, **Setup**, **Demo** or **Install** menu.
Use the cursor left/right to select **Picture**, **Sound** or **Features**.
Note: Sometimes not all the menu items are visible on the screen (indicated by a cluster of blue balls). Use the cursor down or right to reveal all items.

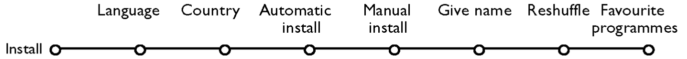
❸ Use the cursor in the left/right direction to select the menu item.

❹ Use the cursor up/down again to select the control you want to select or to adjust.

Note: Items temporary not available or not relevant are displayed in a light grey colour and cannot be selected.

Installation

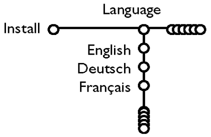
The installation menu contains the following items:

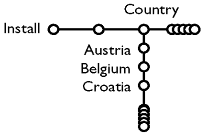

Install
Language
Country
Automatic install
Manual install
Give name
Reshuffle
Favourite programmes

EasyLink

If your video recorder has an EasyLink function, during installation, the language, country and available channels are automatically transmitted to the video recorder.

Select the menu language and country


Language
Install
English
Deutsch
Français

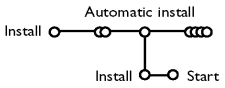

Country
Install
Austria
Belgium
Croatia

❶ Press the **MENU** key on the remote control.
❷ Use the cursor down to select **Install**.
❸ Use the cursor right to select **Language**.
Follow the instructions on screen.
❹ Use the cursor up/down to select your preferred language and press the **OK** key to confirm your selection.
❺ Use the cursor right to select **Country**.
❻ Select the country where you are now located and press the **OK** key.
Select **Other** when none of the countries applies.
❼ Proceed with the Install menu.

Store TV channels

After language and country are set correctly, you can now search for and store the TV channels in two different ways: using Automatic Installation or Manual Installation (tuning-in channel by channel).
Select your choice with the cursor right.

Automatic installation



❶ Select **Automatic install** in the Install menu.
Note: All channels must be unlocked in order to autoprogram. If requested, enter your code to unlock all channels. (See TV, Features menu, Childlock, p. 13.)

❷ Press the cursor down.
The autoprogramming option label **Start** appears.

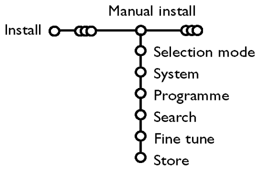
❸ Press the cursor right.

❹ The message **Searching** appears and the progress of autoprogramming is displayed.

If a cable system or a TV channel which broadcasts ACI (Automatic Channel Installation) is detected, a programme list appears. Without ACI broadcast, the channels are numbered according your language and country selection. You can use Reshuffle to renumber them. See p. 7.

It is possible that the cable company or the TV channel displays a broadcast selection menu. Layout and items are defined by the cable company or the TV channel. Make your choice with the cursor and press the ***OK*** *key.*

Manual installation



Searching for and storing TV channels is done channel by channel. You must go through every step of the Manual Installation menu.

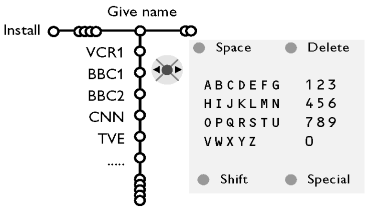
❶ Select **Manual install** in the Install menu.

❷ Press the cursor down.
Follow the instructions on screen.

Note: Search or direct selection of a TV channel.
If you know the frequency, the C- or S-channel number, enter the 3 or 2 digits of the frequency or the channel number directly with the digit keys 0 to 9 (e.g. 048). Press the cursor down to proceed.

Repeat to search for another TV channel.

Give name



It is possible to change the name stored in the memory or to assign a name to a TV channel for which a name has not yet been entered. A name with up to 5 letters or numbers can be given to the programme numbers 0 to 99.

❶ Select **Give Name** in the Install menu and press the cursor down.

❷ Select the programme number.
Note: keep the cursor up/down pressed to scroll through the programme list quickly.

❸ Press the cursor right.
A keyboard appears on the screen.
Press the cursor right to enter the keyboard.
Press the cursor up/down, left/right to select the first character and press **OK**. Repeat for every character you want to enter.
Select **Space** to enter a space; **Delete** to erase the highlighted character in the name entered; **Shift** to display upper- or lowercase characters on the keyboard; **Special** to display special characters on the keyboard. Press **OK** to confirm.

❹ Press the cursor left repeatedly when you have finished the name giving.

❺ Select another programme number and repeat steps ❸ to ❹.

Reshuffle the programme list

You can change the order of the stored TV channels.

❶ Select **Reshuffle** in the Installation menu.

❷ Follow the instructions on screen.

Select Favourite TV channels

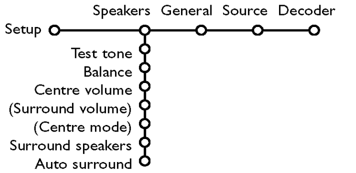
❶ Select **Favourite programmes** in the Install menu.

❷ Select your programme number with the cursor up/down.

❸ Select **Yes** or **No** with the cursor right.

❹ Repeat ❷ and ❸ for every TV channel or external you want to make a favourite or a non-favourite TV channel or external.

TV Setup



The Setup menu contains items that control the settings of the TV's functions, features, services and peripherals you may have connected.

The **Speakers** menu reflects the speaker-related controls.
The **General** menu allows you to change settings that will typically be accessed only occasionally.
The **Source** menu allows you to select a source.
The **Decoder** menu allows you to define one or more programme numbers as decoder programme numbers.

Speakers

Your TV is equipped with integrated front left, right and centre loudspeakers, capable of reproducing Stereo, Dolby 3 stereo and 3D Surround modes.
For full Dolby Pro Logic Surround sound you should use two amplified rear surround speakers connected to the back of the TV.
See Extra loudspeakers/Amplifier, p. 21.

Depending on the output and Surround mode (see Main menu, TV, Sound, Sound modes, p. 12) selected, some menu items may be greyed out and are not selectable.

Test tone controls

The menu item Test tone enables you to balance the volume levels of the speakers.

❶ Select **Test tone** and press the cursor right.

❷ Once turned on, the Test Tone will circulate through the left, centre, right speakers and both rear surround speakers (if present).

❸ Press the cursor up/down to select the desired speaker for individual volume level adjustment.

❹ Press the cursor left/right to adjust the volume level.

Centre Mode

To enhance the sound reproduction of your TV you may connect two extra front loudspeakers via an external amplifier. See Connect extra loudspeakers/Amplifier, p. 21.
If no External Front Speakers are connected, do not change the predefined factory settings which is **Centre mode Off**. Only if an external amplifier with Front Speakers is connected, select **Centre mode On**.
In this setting, the centre channel in surround mode is directed to all three internal TV speakers (left, centre and right).

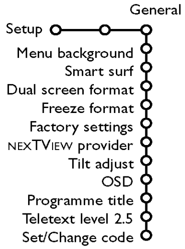
Surround Speakers

See Connect Peripheral Equipment, Connect extra loudspeakers/amplifier, p. 21.
If no Surround Speakers are connected do not change the predefined factory settings which is **Off**. If Surround Speakers are connected select **On**.
(Dolby Pro Logic and Hall are not available if Off is selected.)

Auto Surround

Sometimes the broadcaster transmits special signals for Surround Sound encoded programmes.
The TV automatically switches to the best surround sound mode when **Auto Surround** is switched **On**.
However it is possible to overwrite this setting.

General



This menu allows you to change various settings that are presumably adjusted less frequently than most other settings.

Press the i+ key on the remote control to get information about the selected menu item.

Smart surf

❶ Select **Smart surf**.

❷ With the cursor left/right, select
- **2 programmes** if you want the P◂P key to toggle between the current and the previously selected channel,
- **9 programmes** if you want the P◂P key to summon a list of up to 9 channels which can be selected,
- **Themes** if you want the P◂P key to quickly select TV programmes if NEXTVIEW with defined themes is broadcast.

To add/remove a channel or source:

Tune to the channel or source you wish to add or remove. Press the P◂P key and press the cursor right to add or remove.
Note: If there are already 9 channels/sources in the list, the one at the bottom of the list will be removed.

Dual screen format

This menu allows you to select the preferred format which can then be displayed toggling the 12 key on and off.
See Dual screen/PIP/ Multipip, p. 14.

Select **Dual screen**, **PIP**, **PIP 3** or **PIP 12** with the cursor down.
When Dual screen mode is activated with the remote control 12 key, and when:
- **Dual screen** is selected, the TV splits the screen into two equally sized screens.
- **PIP** is selected, the TV shows a full screen of video with a pip window of video on top if it;
- **PIP3** or **12** is selected, the TV will display 3 or 12 pip screens.

Freeze format

Freeze format allows you to select among three options: Freeze, Replay or Photo finish, to be activated when you press the ▶◀ key on the remote control. See p. 3.
Note: Continuing to hold the ▶◀ key down will also cycle the TV through the various formats. Changing the format this way does not store the selected format.

Factory settings

This resets the picture and sound settings to their predefined factory values, but maintains the channel installation settings.

NEXTVIEW provider

Select a TV broadcaster that provides NEXTVIEW data. How to make use of NEXTVIEW, see p. 15.

OSD (On Screen Display)

See Use of the remote control, p. 4, i+ On screen information.

❶ Select **OSD**.

❷ Select **Normal** to activate the continuous display of the programme number. Also TV channel and programme information are extended. **Minimum** will display reduced channel information.
Note: When subtitles is switched on, see Features, p.13, continuous display of the programme number is not possible.

Teletext level 2.5

Some broadcasters offer the opportunity to see more colours, other background colours and nicer pictures in the teletext pages.

❶ Select **Teletext level 2.5**.

❷ Press the cursor right to select **Teletext level 2.5 On** to take advantage of this feature.

❸ Press the cursor right again to select **Teletext level 2.5 Off** if you like the more neutral teletext layout.
The selection made is valid for all channels which broadcast teletext level 2.5.
Note: It may take a few seconds before teletext broadcast switches over to Teletext level 2.5.

Set/Change code

The Child lock feature (see TV, Features, p. 13) allows you to lock channels to prevent others from watching certain programmes. To watch locked channels, a 4-digit code must be entered. The Set/Change code menu item allows you to create or change a Personal Identification Number (PIN).

❶ Select **Set/Change code**.

❷ If no code exists yet, the menu item is set to Set code.

If a code has previously been entered, the menu item is set to **Change code**. Follow the instructions on screen.

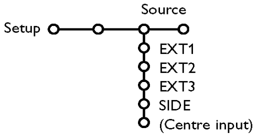
Important: You have forgotten your code !

❶ Select **Change code** in the General menu and press **OK**.

❷ Press the cursor right and enter the overriding code 8-8-8-8.

❸ Press the cursor again and enter a new personal 4-digit code. The previous code is erased and the new code is stored.

Source



This menu allows you to indicate the peripheral you connected to one of the external inputs.

❶ Press the cursor right to enter the list of types of peripherals attached to the selected input.

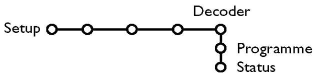
❷ Select the peripheral device with the cursor up/down.

Once you have selected the source type, e.g. DVD, this source will automatically be selected when your remote control is in DVD mode, see p. 3, and when you press the ⊕ key on the remote control.

Centre input

When you have connected a Philips Cinema Link surround receiver to the TV (See separate Cinema Link instruction manual supplied) and you have selected one of the external inputs as centre input, the loudspeakers of the TV will act as centre speaker, making a separate centre speaker unnecessary.

Decoder



If a decoder or a descrambler is connected, see p. 20, you can define one or more programme numbers as decoder programme numbers.

❶ Select **Decoder** with the cursor right.

❷ Select **Programme**.

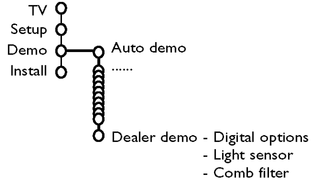
❸ Select the programme number under which you have stored the programme coming from your decoder.

❹ Select **Status**.

- Select the input used to connect your decoder: **None**, **EXT1** or **EXT2**.
- Select **None** if you do not want the selected programme number being activated as a decoder programme number.

*Note: Select **EXT2** when the decoder is connected to your EasyLink video recorder.*

Demo



The Demo menu allows to demonstrate the TV features separately or in a continuous loop.

If **Auto demo** has been selected the demo will automatically present the features sequentially in a loop. Press one of the cursor keys to stop the Auto demo.
If one of the features has been selected, this particular feature demo will run only once, and the Demo menu will reappear.

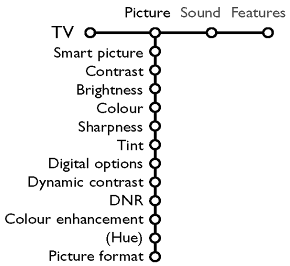
Note: The Dealer demo is not part of the automatic sequence and can only be activated separately.

TV menu

Press the **MENU** key on the remote control to summon the main menu.

Press the ⓘ key on the remote control to get information about the selected menu item.

Picture



❶ Press the cursor right to select **Picture**.

❷ Select the menu items in the Picture menu with the cursor up/down.

❸ Adjust the settings with the cursor left/right or enter the list of submenu items with the cursor right. Select a submenu item with the cursor up/down.
Note: To remove the menu background before adjusting the picture settings, see Select TV setup, General, p. 9.

Smart picture

Select **Smart picture** to display a list of predefined picture settings, each corresponding with specific factory settings. Personal refers to the personal preference settings of picture in the picture menu.

Digital options

Pixel Plus is the most ideal setting, doubles the horizontal resolution and increases the number of lines with 33%. You may consider to select Movie Plus in case a halo effect should disturb you. Dependent on your own preference, select Double lines, or 100 Hz Digital Scan.

Note: When 60 Hz NTSC material is used, the options are changed to Pixel Plus, Movie Plus or Progressive, progressive scan without motion compensation.

Active Control

The TV continuously measures and corrects all incoming signals in order to provide the best picture possible.

❶ Press the ⊠ key on the remote control.

❷ The Active Control menu appears.

❸ Press the cursor up/down to select the Active Control values **Off**, **Minimum**, **Medium** (recommended) or **Maximum**.
The picture settings are being optimised continuously and automatically which is displayed by bars. The menu items can not be selected.

❹ Press the cursor right to select **Smart picture**.

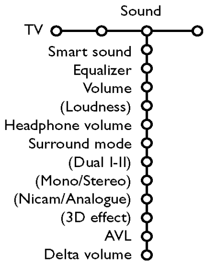
❺ Press the cursor up/down to select one of the predefined picture settings.

❻ Press the cursor right to select **Active Display**.

❼ Press the cursor up/down to select **Bars**, one of the Dual screen demos or **Off**.
When you select Dynamic contrast, Pixel Plus, Digital Noise Reduction or Digital Natural Motion, the TV screen is divided into two parts: in the left part the selected picture quality setting is switched off; in the right part it is switched on.

❽ Press the ⊠ key again to switch off the Active Control menu.

Sound



❶ Press the cursor right to select **Sound**.

❷ Select the menu items in the Sound menu with the cursor up/down and adjust the settings with the cursor left/right. Remember, control settings are at normal mid-range levels when the bar scale is centred.

Smart sound

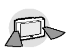
Select **Smart sound** to display a list of predefined sound settings, each corresponding with specific factory settings of Treble and Bass. **Personal** refers to the personal preference settings of sound in the sound menu.

Notes:
- *Some menu items are only available in case of a Cinema Link configuration and when the Cinema Link is activated. Others are steered by the audio receiver instead of by the TV. See the separate Cinema Link booklet supplied.*
- *Dual I-II is only available with dual sound transmission.*
- *Mono/Stereo is only selectable in case of analogue stereo transmission.*
- *Nicam/Analogue is only selectable in case of Nicam transmission.*

Surround Modes

Dependent on your personal preference and the sound signal broadcasted, select one of the Surround modes. Only the speakers indicated in the drawings can reproduce sound.

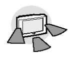
Stereo



This mode reproduces only the left and right front sound signals.

Dolby 3 Stereo

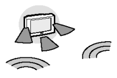
(optimal with Dolby Surround broadcasting)



The Dolby Pro Logic* sounds are distributed over the front left, the front right and the centre TV loudspeakers.

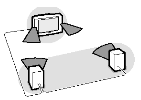
3D Surround

(optimal with Dolby Surround broadcasting)



3D Surround enables you to experience the 3D effect of Dolby Surround Pro Logic* without the need of having rear speakers connected or activated.
The graphical representation of the rear loudspeakers is replaced by the symbol))) (((.
Select the level of 3D effect with the cursor left/right.

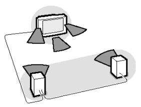
Hall



The sound signal is distributed over the rear loudspeakers which creates a hall effect from the rear.
The centre loudspeaker does not reproduce any signal.

Dolby Pro Logic

(optimal with Dolby Surround broadcasting)



All front and rear loudspeakers reproduce the Dolby Surround Pro Logic sounds.
This sound is always present in the movie or programme marked with DD Dolby Surround.

Note:
- *Normal stereo broadcast is not always encoded to produce a rear surround sound effect.*
- *In case of a Cinema Link receiver configuration connected, only the surround modes of the external receiver can be selected.*
- *Pro Logic and Hall can only be reproduced if Surround speakers is set to Yes in the Setup, Speakers menu, p. 8, and rear speakers are connected.*
- *When a headphone is connected, only the Surround mode **Stereo-headphone** is available.*

DD DOLBY SURROUND PRO · LOGIC

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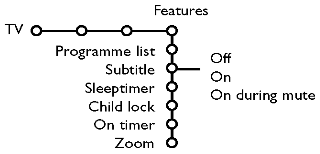
* Dolby' 'Pro Logic' and the double-D symbol DD are trademarks of Dolby Laboratories Licensing Corporation. Manufactured under license from Dolby Laboratories Licensing Corporation.

Features menu



Press the cursor right to select Features.
Select the menu items with the cursor up/down and adjust the settings with the cursor left/right.

Use the on-screen Menu-Info i+ for more information about the menu items.

Programme list

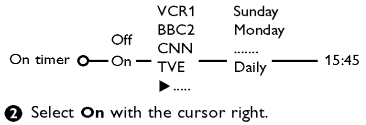
Press the **OK** key to switch over to the selected TV channel or external.

Select subtitles

The subtitle page must be stored for each TV channel:
Switch on teletext and select the proper subtitle page from the index. Switch off teletext.
Subtitle On will automatically display them on the selected TV channels if subtitles are in the transmission. A symbol will indicate that the mode is on.
Select **On during mute** when you want to have the subtitles automatically displayed only when the sound has been muted with the 🔇 key on the remote control.

On timer

❶ Select **On timer** with the cursor down.



❷ Select **On** with the cursor right.

❸ Press the cursor right again to enter the programme list.

❹ Select the TV channel or external you want your TV to switch to on a selected time and day.

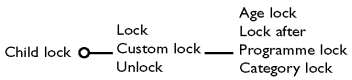
❺ Press the cursor right again to select a day of the week or to select **Daily**.

❻ Press the cursor right once again to enter the time with the digit keys or with the cursor up/down and press the **OK** key to activate.

❼ Press the **MENU** key to turn off the menu.
Note: To check your timer settings, press the i+ key.

Child lock

❶ Select **Child lock**.



❷ Press the cursor right to enter the Child lock menu. You're summoned to enter your code.
Note: You have to re-enter your code each time you enter the child lock menu.

Important: You have forgotten your code ! See p. 10.

❸ Select one of the menu items of the child lock menu:
- **Lock** if you want to lock all channels and externals.
- **Custom lock** and press the cursor right.
  The items Age lock and Category lock are only available when NEXTVIEW broadcast is available.
  Select:
  - **Age lock** if you want to lock programmes related to a certain age: off, 2, 4 ... 18;
  - **Lock after** if you want to lock all programmes from a certain time onwards. Press the cursor right and enter the time with the cursor up/down and right. Press the **OK** key to validate.
  - **Programme lock** if you want to lock a certain TV channel or external;
  - **Category lock** if you want to lock programmes related to a certain theme: Movies, Sports, Shows.... See NEXTVIEW, p. 15.
- Select **Unlock** to disable all locks you have set.

Zoom

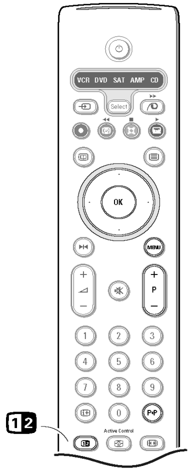
❶ Select **Zoom** with the cursor down and press the **OK** key.

❷ Press the **OK** key to select one of the zoom magnifications (x1, x4, x9, x16).

❸ Additionally you can shift the selected zoom window over the screen with the cursor keys up/down, left/right.

❹ Press the **MENU** key to switch off the zoom function.

Dual screen / PIP / Multipip



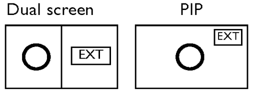
Remark: Normally only pictures from external equipment connected can be displayed in the auxiliary screen.
Full functionality is only available when having connected and activated an EasyLink recorder (of the generation P50.2 or successive). PIP3 or PIP 12 is not available without an EasyLink recorder connected.

Press the 12 key to switch on Dual screen or one of the PIP modes.
Press the 12 key again. The screen that has a yellow border will become the full main screen picture.

Notes:
- *Continuing to hold the 12 key down will cycle the TV through the various formats launching a new format after each second the key is held down. After standby of the TV, the preference as set in the Setup, General menu is used.*
- *When Dual screen mode is selected, two picture formats are supported: Full screen or 4:3 letterbox picture format (vertical squeeze).*
- *Audio from the right screen or the PIP plays to the headphones.*

Display options

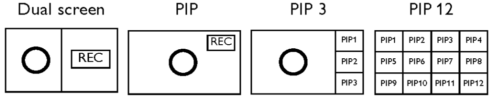
- **With external equipment (non EasyLink) connected and activated:**



No PIP 3 or PIP 12 available

Press the cursor right to highlight the right screen.
Press the cursor down to highlight the single PIP screen.

- **With an EasyLink recorder connected and activated:**



The tuner of the recorder is used for the right screen or for one of the PIP modes.
For PIP 3 or PIP 12: press the cursor right to enter the Multipip screen and then use the cursor keys to navigate through the PIP screens and to highlight a PIP screen.

Changing TV channels or external sources in left, right, PIP or Multipip screen

- Press the **-P+** key or the P◂P key in order to change the TV channels or external sources in the highlighted screen.
- Press the **OK** key to swap the left and the right screen or the highlighted pip screen.

Scan PIP3 or PIP 12

Navigate to the lowest PIP and press the cursor down to display a following series of PIP screens.

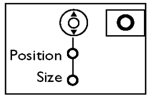
On-Screen information

The highlighted On-Screen information, which appears when changing channels, always refers to the active screen.

Define the position and the size of the single PIP screen

❶ Select a Dual screen mode with a single PIP screen.

❷ Press the cursor down to highlight the PIP screen. A PIP menu appears with which you can define the position and the size of the PIP screen.



Note: When the PIP menu times out, press the ok key to make it reappear.

❸ Press the cursor down again to select **Position** or **Size**.

❹ Press the **OK** key or the cursor right to activate.

❺ Use the cursor keys to define the position of the PIP screen. Use the cursor left/right to define the size of the PIP screen.

❻ Press the **OK** key. The PIP menu reappears.

❼ Press the cursor up to the top of the menu to highlight the main screen again.

❽ Press the **OK** key to switch off the menu or wait until it is timed out.

NEXTVIEW / Teletext guide

NEXTVIEW is an electronic guide that allows you to look up programmes as you would in a newspaper or a TV magazine. You can sort the programmes by subject (films, sport...), obtain detailed information and programme your video recorder if it comes with the NEXTVIEWLink function.

Important note: ***The NEXTVIEW service is only available on certain programmes and in certain countries****. When no NEXTVIEW information is broadcast, the teletext programme guide appears in its place. This is based on teletext programme information (if available) and offers most functions of NEXTVIEW.*
Note: The broadcaster is responsible for the content of the information.

Call NEXTVIEW / Teletext guide

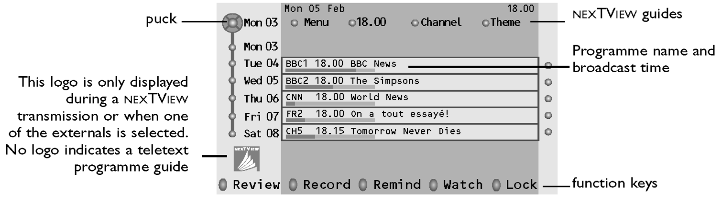
Press the ⊡ key on the remote control to call the NEXTVIEW/Teletext guide.
A menu appears with the message **One moment please**. After a while you obtain:
- a NEXTVIEW page, if the selected channel broadcasts this service (the NEXTVIEW logo is displayed),
- a teletext page, if the selected channel does not broadcast NEXTVIEW,
- **No information available** is displayed if neither NEXTVIEW nor teletext are transmitted. In this case, select another channel.

Select TV channels by theme

If NEXTVIEW with defined themes is broadcast, it is possible to quickly select TV programmes with the P◂P key. See Setup, General menu, Smart surf, p. 9.

Display of a NEXTVIEW page

The information is set by the channel that transmits the NEXTVIEW service. See also Setup menu, General, NEXTVIEW provider, p. 9.


puck
This logo is only displayed during a NEXTVIEW transmission or when one of the externals is selected. No logo indicates a teletext programme guide
NEXTVIEW guides
Programme name and broadcast time
function keys
Mon 05 Feb
18.00
Mon 03
Menu
18.00
Channel
Theme
Mon 03
Tue 04
Wed 05
Thu 06
Fri 07
Sat 08
BBC1 18.00 BBC News
BBC2 18.00 The Simpsons
CNN 18.00 World News
FR2 18.00 On a tout essayé!
CH5 18.15 Tomorrow Never Dies
Review
Record
Remind
Watch
Lock

Picture/NEXTVIEW - Teletext Guide

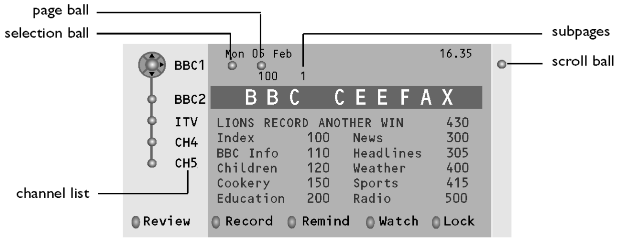
❶ Press the key. Press the key to show NEXTVIEW-Teletext Guide on the right of the screen.
❷ Use the cursor keys to select a TV channel or to move the puck to the blue ball in the left screen.
❸ Press the key to switch off dual screen.

NEXTVIEW guides

❶ Use the cursor key left/right to select **Time**, **Channel**, **Theme**, the **Date** guide.
The **Time guide** provides an overview of all programme titles active in the selected time block. The **Channel guide** provides an overview of all programmes that are broadcast by a single channel during one day. With the **Date guide** you can choose a specific date. The **Theme guide** displays a list of all programmes at the selected date, that matches with the selected category.
Going through the menu guide, the TV is collecting the sorting criteria to finally display a list of programme events.
❷ Press the **OK** key to select the guide type.
❸ Move the puck down and to the right to select the programmes.
If available a summary or commentary on the programme is displayed at the bottom of the screen.
❹ Use the cursor up/down to scroll through the programmes.

Teletext Guide

❶ Enter with the digit keys, the teletext page number that contains the programme information for the current channel.
❷ Press the cursor right to move the puck over the selection ball.
❸ Use the cursor up/down to scroll through the different programmes.


page ball
selection ball
subpages
scroll ball
channel list
Mon 05 Feb
16.35
100 1
BBC1
BBC2
ITV
CH4
CH5
B B C C E E F A X
LIONS RECORD ANOTHER WIN 430
Index 100 News 300
BBC Info 110 Headlines 305
Children 120 Weather 400
Cookery 150 Sports 415
Education 200 Radio 500
Review
Record
Remind
Watch
Lock

- If the selected programme contains a page number with an optional subcode referring to a page with more info about the programme, press the **OK** key to display the information. Press the **OK** key again to return to the programme guide page.
- If the selected programme guide page satisfies the VPT requirements,
  - it will be possible to record, remind, watch or lock programmes:
  - the TV will remember the last selected teletext page number of that channel that contains programme guide information and indicates which programme starts at what time. Every time you press the key, the teletext programme guide page of the selected TV channel will be available.
- When necessary you can select the subpage number by moving the cursor to the pageball and pressing right.

Note: You must enter the teletext pagenumber for each channel. You can change the channels also by moving the cursor up/down in the list in the left of the page.

Basic functions

Press one of the grey, red ●, green, yellow or blue keys to activate a NEXTVIEW or Teletext Guide function. The keys appear in grey if the function is not available.

Review: this menu provides a list of programmes that are marked as reminders, those that have to be recorded and those that are locked. This menu can be used to change or remove marked programmes.

Record: to programme the recording of the video recorder (if it has a NEXTVIEWLink function and is connected to **EXT. 2**).

Remind: automatically switch on the TV if it is in standby or by displaying a message if the TV is on.

Lock: to lock certain programmes to prevent recording or watching.
For the functions Record, Remind or Lock, a small menu pops up in which you can choose the interval: once, daily or weekly, or clear an earlier made record, remind or lock setting. The default interval is set to **Once**. To confirm the frequency, press the **OK** key.

Watch: to watch the selected and currently broadcast programme.

Acquisition and updating of NEXTVIEW information

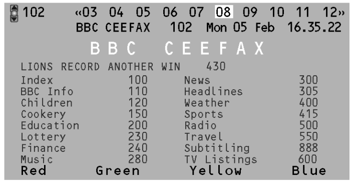
Acquisition and updating of NEXTVIEW is done when you are watching the TV channel of the selected NEXTVIEW provider, see Setup menu, p. 9, or when the TV is switched to standby;
Acquisition of fresh data will happen once during the night.
Note: it may be necessary to put the TV in standby mode when all NEXTVIEW information is outdated, e.g. when returning from holiday.

Teletext

Most TV channels broadcast information via teletext. This TV has a 1200 pages memory that will store most broadcasted pages and subpages to reduce waiting time. After each programme change, the memory is refreshed.

Switch Teletext on and off

Press ▤ to switch the teletext on.



```
102     «03 04 05 06 07 08 09 10 11 12»
        BBC CEEFAX  102  Mon 05 Feb  16.35.22
              BBC CEEFAX
LIONS RECORD ANOTHER WIN   430
Index          100     News           300
BBC Info       110     Headlines      305
Children       120     Weather        400
Cookery        150     Sports         415
Education      200     Radio          500
Lottery        230     Travel         550
Finance        240     Subtitling     888
Music          280     TV Listings    600
Red        Green        Yellow       Blue
```

Select a Teletext page

- Enter the desired page number with the digit keys, the cursor keys up/down, left/right or with the **-P+** key.
- Select the options at the bottom of the screen with the colour keys.

Previously selected teletext page

(Only possible in case there is no list of favourite teletext pages available. See p. 19.)
Press the P◂P key.

Select the index teletext page

Press the grey colour key ▶▶ to display the main index (usually p.100).

Only for T.O.P teletext broadcasts :

Press ⓘ. A T.O.P. overview of the teletext subjects available is displayed.
Select with the cursor up/down, left/right the desired subject and press the **OK** key.
Not all TV channels broadcast T.O.P. teletext.

Select subpages

When a selected teletext page consists of different subpages, a list of available subpages appears on the screen.
Press the cursor left or right to select the next or previous subpage.

Enlarge a Teletext page

Press ⊟ repeatedly to display the upper teletext part, the lower teletext part and then to return to the normal teletext page size.
When the teletext page is enlarged, you can scroll the text, line by line using the cursor up/down.

Active screen selection

When in dual screen picture/teletext, enter the desired page number with the **-P+** key, then press the **MENU** key, then select the left screen (with the blue ball at the top).
You can now select a compressed or full screen view of picture/teletext with the ⊟ key.

Hypertext

With hypertext you can quickly jump to a pagenumber or search for a specific word shown on the current teletext page.

❶ Press the **OK** key to highlight the first word or a number on the page.
❷ Use the cursor up/down, left/right to select any other word or number you want to search for.
❸ Press the **OK** key to confirm. The search starts. A message appears at the bottom of the screen to indicate the searching, or that the word or page is not found.
❹ Use the cursor up to exit hypertext.

Teletext menu

(only available in full screen teletext mode)

❶ Press the **MENU** key to activate the menu.
❷ Press the cursor up/down to select the menu items.
❸ Press the cursor right to activate.

Reveal

Reveals/conceals hidden information on a page, such as solutions to riddles and puzzles.
Press the cursor right to activate.

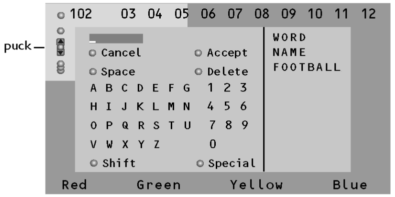
Favourite

This list contains up to eight favourite teletext pages. Only the pages of the current channel can be selected.

❶ Press the cursor right to enter the list.
❷ Press the cursor right again to add the current page or to select one of the favourite pages to the list.
❸ Press the **MENU** key to watch the page.
❹ Use the P◂P key to browse through the list of favourite pages.

Search

Selecting a word
On the keyboard on screen you can type in a random word you want to search for in the teletext pages. Whether upper- or lowercase is used has no influence.



❶ Press the cursor right to enter the keyboard.
❷ Press the cursor left/right, up/down to select the characters, words or functions.
❸ Press the **OK** key to confirm each character selected.
❹ Select **Cancel** to cancel the word; **Space** to enter a space; **Delete** to delete the last character selected; **Shift** to switch between lowercase or capital characters; **Special** to display special characters on the keyboard and press the **OK** key.
❺ Press the cursor left repeatedly to return to the Teletext menu again.

Searching a word
❶ Type in the word on screen or select a word from the history list on the right and press **OK**.
❷ Select **Accept** and press **OK** again. The message Searching appears.
❸ To cancel the searching or to search for a new word, select **Keyboard** and press **OK**.
❹ When a word is not found, a message appears. When the word is found, it is highlighted in the teletext page. To continue the search, press the **OK** key.

Cycle subpages *(if available)*

Makes the subpages cycle automatically.
Press the cursor right to activate and to de-activate again.

Timed page

To display a specific page from a selected TV channel at a certain time.

❶ Press the cursor right and select **Yes** or **No**.
❷ Enter the time and pagenumber with the cursor keys or the digit keys.
Note: Teletext does not have to remain switched on, but you should watch the TV channel you have selected the specific page from.
❸ Press the cursor left to return to the TV menu again.

Language

If the displayed characters on screen do not correspond with the characters used by the teletext broadcaster, you can change the language group here.
Select **Group 1** or **Group 2** with the cursor right.

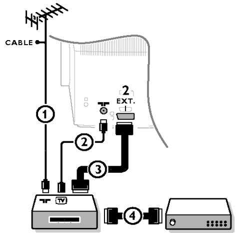
Press the **MENU** key to leave the Teletext menu.

Connect Peripheral Equipment

There is a wide range of audio and video equipment that can be connected to your TV.
The following connection diagrams show you how to connect them.

*Note: **EXT. 1** can handle CVBS and RGB, **EXT. 2** CVBS and Y/C, **EXT. 3** CVBS and RGB. It is preferred to connect peripherals with RGB output to **EXT. 1** or **3** as RGB provides a better picture quality.*
*If your recorder is provided with the EasyLink function, it should be connected to **EXT. 2** to benefit from the EasyLink functionality.*

Recorder (VCR-DVD+RW)

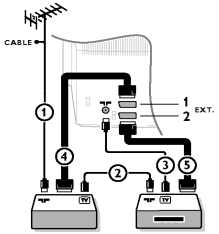


Connect the aerial cables ①, ② and, to obtain the optimum picture quality, eurocable ③ as shown.
If your recorder does not have a euroconnector, the only possible connection is via the aerial cable. You will therefore need to tune in your recorder's test signal and assign it programme number 0 or store the test signal under a programme number between 90 and 99, see Manual installation, p. 6.
See the handbook of your recorder.

Decoder and Recorder

Connect a eurocable ④ to your decoder and to the special euroconnector of your recorder. See also the recorder handbook. See Decoder, p. 9 You can also connect your decoder directly to **EXT. 1** or **2** with a eurocable.

Other equipment (satellite receiver, decoder, DVD, games, etc.)

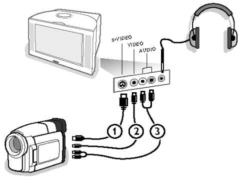


❶ Connect the aerial cables ①, ② and ③ as shown (only if your peripheral has TV aerial in-/output).
Connect your equipment with a eurocable ④ or ⑤ to one of the euroconnectors **EXT.1**, **2** or **3** to obtain a better picture quality.

❷ Look for the test signal of your peripheral in the same way as you do for a recorder.

❸ Make a selection in the Setup, Source menu, p. 10.

Side connections



Camera or Camcorder

❶ Connect your camera or camcorder as shown.

❷ Connect to **VIDEO** ② and **AUDIO L** ③ for mono equipment. For stereo equipment also connect **AUDIO R** ③. S-VHS quality with an S-VHS camcorder is obtained by connecting the S-VHS cables with the S-video input ① and audio inputs ③.
Do not connect cable ① and ② at the same time. This may cause picture distortion !

Headphone

❶ Insert the plug into the headphone socket 🎧 as shown.

❷ Press 🔇 on the remote control to switch off the internal loudspeakers of the TV.
The headphone impedance must be between 8 and 4000 Ohm. The headphone socket has a 3.5 mm jack.
In the Sound menu select **Headphone volume** to adjust the headphone volume.

Connect extra loudspeakers/amplifier

REAR multimedia loudspeakers

❶ Select **Surround speakers On** in the Setup menu, see p. 8.

❷ Connect the audio cables to the rear loudspeakers and to the Dolby Surround output **S** at the back of your TV. There is only one output for both speakers.

❸ Adjust the volume of the rear loudspeakers. Use the Test tone function in the Speakers menu, see p. 8.
Note: Once you have adjusted the volume of the rear loudspeakers, do not change it while watching TV as the whole configuration operates with the volume adjustment of your TV.

Stereo amplifier and 2 extra front speakers

❶ Select **Centre mode On** in the Setup, Speakers menu, see p. 8.

❷ Connect the audio cables to the audio input of your amplifier and to **AUDIO L** and **R** at the back of your TV.

❸ Adjust the volume of the audio amplifier. Use the Test tone function in the Setup, Speakers menu, p. 8.
Note: Once you have adjusted the volume of the external amplifier, do not change it while watching TV as the whole configuration operates with the volume adjustment of your TV.

To select connected equipment

Press the ⊕ key on the remote control repeatedly to select **EXT1**, **EXT2**, **EXT3** or **SIDE** according to where you connected your equipment at the back or the right side of your TV.

Remark : Most equipment (decoder, recorder) carries out the switching itself, when it is switched on.

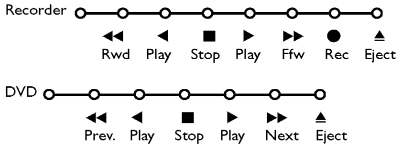
Cinema Link surround receiver

See the separate supplied Cinema Link instruction manual.

Attention: the sound info on screen will not correspond with the actual sound reproduction.

Recorder or DVD with EasyLink

The recorder (VCR or DVD+RW) or DVD can be operated with the remote control via the **Recorder** or **DVD** menu on screen.



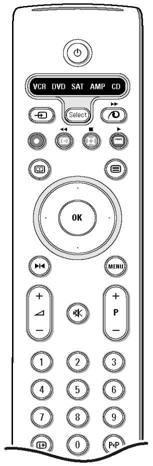
❶ Press the **MENU** key on the remote control.

❷ Select the **Recorder** or **DVD** menu with the cursor up/down.

❸ Press the cursor left/right, up/down to select one of the recorder or DVD functions.

The key ● for recording can be operated in the TV mode.
If your EasyLink recorder has the system standby function, when you press the ⏻ key for 3 seconds, both TV and the recorder are switched to standby.

Audio- and video equipment keys



Most of the audio and video equipment from the Philips range of products can be operated with the remote control of your TV.

Press the **Select** key to operate any of the equipment indicated in the display. Another device can be selected by pressing Select repeatedly within 2 seconds. The led will blink slowly to indicate the device.
Press one of the keys on the remote control to operate the peripheral equipment.
To return to TV mode press Select while the led is blinking.
When no action is taken within 60 seconds, the remote goes back to TV mode.

*Note: When the **Select** key is pressed and hold for more than 2 seconds, the RC5/RC6 system select command is transmitted.*

⏻	to switch to standby
▶❙◀	for pause (**VCR**, **DVD**, **CD**)
●	for record
◀◀	for rewind (**VCR**, **CD**); search down (**DVD**, **AMP**)
■	for stop
▶	for play
▶▶	for fast forward (**VCR**, **CD**); search up (**DVD/AMP**)
▣	to select your choice of subtitle language (**DVD**); RDS news/TA (**AMP**); to shuffle play (**CD**)
▤	to select a **DVD** title; RDS display (**AMP**); info on screen (**CD**)
⊞	display information
MENU	to switch the menu on or off
- P +	for chapter, channel, track selection
0 to 9	digit entry
P◂P	tape index (**VCR**), select a DVD chapter, select a frequency (**AMP**)
◎	VCR timer
⌘	surround on/off (**AMP**, **CD**)
cursor up/down	to select the next or the previous disc (**CD**)
cursor left/right	to select the previous or following track (**CD**) search up/down (**AMP**)

Selecting submodes for DVD+RW, SAT, CDR

❶ The remote control should be in TV mode.

❷ Press the **OK** key together with

- digit 1: **DVD** mode is selected
- digit 2: **DVD+RW** mode is selected
- digit 3: **SAT (RC5)** mode is selected
- digit 4: **SAT (RC6)** mode is selected
- digit 5: **CD** mode is selected
- digit 6: **CD-R** mode is selected.

Record with your recorder with EasyLink

In TV mode, it is possible to start a direct recording of the programme which is being displayed on the TV screen.
Continue to press the ● record key on the remote control for more than 2 seconds.

Note:
Switching programme numbers on your TV does not disturb recording !
*When recording a programme from a peripheral connected to **EXT. 1**, **3** or **SIDE**, you can not select another TV programme on the screen.*

Tips

Care of the screen	Clean the TV with a slightly damp soft cloth. Do not use abrasive solvent as it can damage the TV screen.
Poor Picture	• Have you selected the correct TV system in the manual installation menu? • Is your TV or house aerial located too close to loudspeakers, non-earthed audio equipment or neon lights, etc.? • Mountains or high buildings can cause double pictures or ghost images. Sometimes you can improve the picture quality by changing the direction of the aerial. • Is the picture or teletext unrecognisable? Check if you have entered the correct frequency. See Installation, p. 6. • Are brightness, sharpness and contrast out of adjustment? Select Factory settings in the Setup, General menu, p. 9. • Sometimes poor picture quality is possible when having activated an S-VHS camera or camcorder connected to the right side of your TV and another peripheral is connected to one of the externals at the same time. In this case switch off one of the other peripherals.
Digital distortion	The low quality of some digital picture material may be the cause of digital image distortion. In this case select the Soft setting using the Picture menu, Smart Picture, without changing the picture settings manually.
No picture	• Is the aerial connected properly? • Are the plugs tightly connected in the aerial socket? • Is the aerial cable in good condition and does it have suitable plugs?
No sound	• No sound on any channel? Check the volume isn't at minimum. • Is the sound interrupted with the mute key 🔇? Check if your speaker configuration corresponds with the selections made in the Setup menu, Speakers, p. 8.
No Surround sound	• Perhaps the channel is not broadcasting good quality surround sound. • No sound from the rear speakers or the centre speakers? Select an appropriate surround mode, according to the broadcasted sound signal or adjust the volume. See Surround Modes, p. 12.
No solution found for your picture or sound problem ?	Switch your TV off and then on again once. Never attempt to repair a defective TV yourself. Check with your dealer or call a TV technician.
Menu	Have you selected the wrong menu? Press the **MENU** key again to exit from the menu.
NEXTVIEW	**No NEXTVIEW info:** See Acquisition and updating of NEXTVIEW information, p. 17. **Displayed time is wrong:** The broadcaster on programme number one does not transmit the correct local date and time. Use Reshuffle in the installation menu to place another broadcaster on programme number one.
Remote control	• If your TV no longer responds to the remote control, the batteries may be dead. • Check if the remote control is in the correct mode. • You can still use the **M** key and the -/+ keys at the top of your TV.
Standby	Your TV consumes energy in the standby mode. Energy consumption contributes to air and water pollution. Power consumption: 1 W

4. Mechanical Instructions

Index of this chapter:
1. Service Connector
2. Set Disassembly
3. Service Positions
4. Assy / Board Removal
5. Set Reassembly

Note: Figures below can deviate slightly from the actual situation, due to the different set executions.

4.1 Service Connector (for ComPair)

For service diagnostics with ComPair, it is not necessary to disassemble the set. You only have to connect the ComPair interface box, via the appropriate cable, to the service connector (on the rear of the set, see figure below), and start the program.

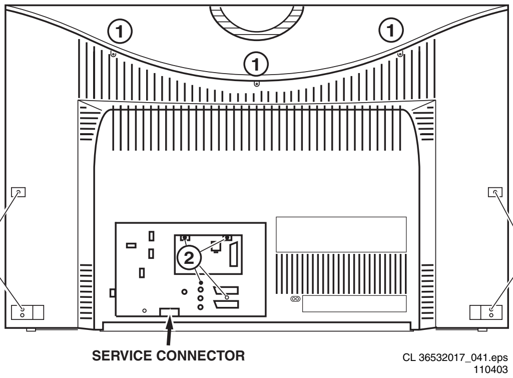
4.2 Set Disassembly

Follow the disassemble instructions in described order.

4.2.1 Wireless Surround Transmitter Removal (if attached)

1. Remove the cable of the Wireless Surround Transmitter box (at the side of this RJ45 plug you can find the release-hook of the lock-mechanism).
2. Pull the Wireless Surround Transmitter box backwards. It is clicked to the rear cover via three clamps.

4.2.2 Rear Cover Removal



CL 36532017_041.eps
110403

Figure 4-1 Rear view

Warning: disconnect the mains power cord before you remove the rear cover.

First, remove the top cover (= plate with 'saucer'):
1. Remove the fixation screw(s) [1] that hold the cover plate.
2. Pull the cover (horizontally) backwards.

To be able to access the electronics of the set, you must remove the rear cover:
1. Remove the fixation screws [2] of the rear I/O cover plate.
2. Remove the remaining fixation screws [3] at the two sides, and at the top of the rear cover.
3. Release at bottom side the rear cover securing clips and remove the rear cover. Make sure that wires and cables will not be damaged during the cover remove action.

4.2.3 Sub-woofer Removal

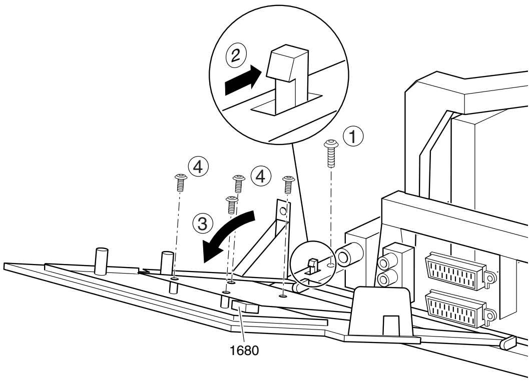
Caution: Do not disconnect the loudspeaker cable from the subwoofer box when the set is operative, because the class-D amplifier cannot handle a change in load during operation.
It is no problem when the subwoofer is disconnected **before operation**, but a change from connected to disconnected **during operation** can damage the amplifier.

1. Disconnect the loudspeaker cable connectors at the top of the sub-woofer box.
2. Unlock he subwoofer bracket and at the same time pull the unit backwards.
3. Take out the sub-woofer unit including the bracket.

4.3 Service Positions

This chassis has several predefined service positions, for better accessibility. They are explained below in more detail.

4.3.1 Solder Side '3rd SCART' panel



CL 16532044_010.eps
140501

Figure 4-2 Service position 1

To remove or access the '3rd SCART' panel, do the following:
1. Remove fixation screw [1].
2. To release the fixation peg, push it towards the CRT [2].
3. At the same time, pull the complete module away from the LSP [3]. It hinges in the LSP-bracket. It is also possible to uncouple both hinges.
4. To remove the panel, disconnect the flat-cable from connector 1680 and remove the four panel screws [4].

4.3.2 Double Window PIP panel (If present)

1. Release the securing clamps and take out of the PWB to service the Double window PWB.

4.3.3 Component Side LSP

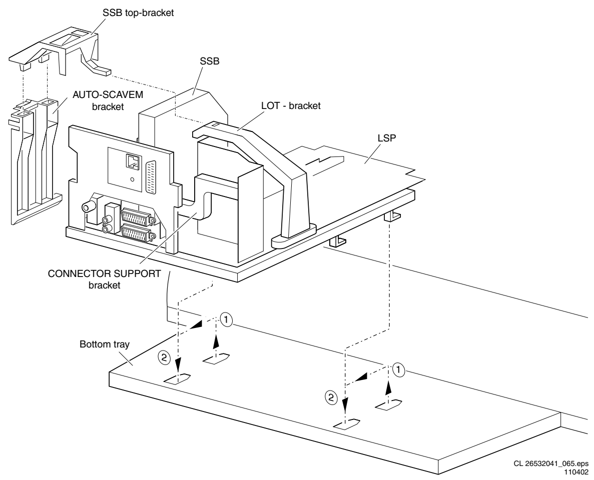


Figure 4-3 Service position 2

For better accessibility of the LSP, do the following (see figure above):

1. Remove the LSP-bracket from the bottom tray by pulling it backwards.
2. Hook the bracket in the first row of fixation holes of the bottom tray. In other words, reposition the bracket from [1] to [2].

4.3.4 Solder Side LSP

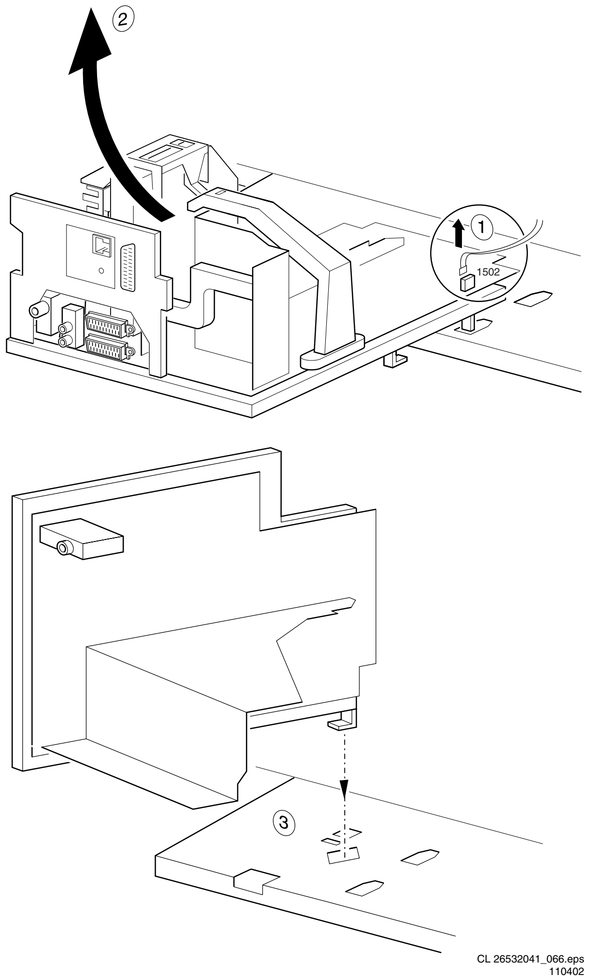


Figure 4-4 Service position 3

To get access to the bottom side (solder side) of the LSP, do the following (see figure above):

1. Unlock the DAF-module bracket (see paragraph 'DAF Assy/Panel' further down).
2. Unlock the Double Window, PIP module (if present), release the locking clip and pull the bracket out of the locking holes in the bottom plate.
3. Disconnect the degaussing coil connector 1502 [1] from the LSP.
4. Release the high voltage cable out of its guiding clamp.
5. Release the wiring from their fixation clamps, in order to position the LSP in the service position.
6. Some cables should be led underneath the CRT panel instead of above this panel.
7. Move the LSP to the left, at the same time rotate the panel 90 degrees clockwise [2] and next, place it upright at the left side of the bottom tray [3].
8. Put the panel with the right sided locking hook in the oblique accessed mounting hole in the bottom plate and pull it backwards to lock the panel in this position.

4.3.5 Small Signal Board (SSB)

Caution:

Always switch the set completely ‘OFF’ (disconnect the mains cord) before you remove or replace the SBB.
As the 5V2 standby voltage is always present (while the set is switched ‘On’, in ‘Standby’ or in ‘Protection’ mode) on the SIMM connector, it is very risky to remove the SSB in this situation, because the risk of short circuiting is very great.

In fact, there is no predefined service position for the SSB. Most test points are located on the A-side (side that is facing the tuner). If you have to replace ICs, you must take the complete SSB module out of the SIMM-connector.
Note: For good access to the A-side, it is necessary to remove the Auto-Scavem assy (at the left side of the SSB). See description in paragraph ‘Assy/Panel removal' to remove the Auto-Scavem panel/bracket.

To get access to the SSB test points, do the following:

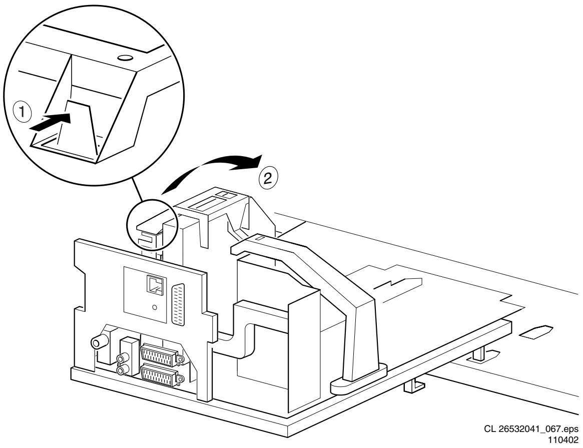


Figure 4-5 SSB removal (part 1)

1. Put the LSP in service position 2 (as described above).
2. Release the two clamps at the top of the SSB bracket [2] and pull the bracket upward (it hinges in the bracket at the LOT side).
3. Now you can remove the complete SSB bracket.

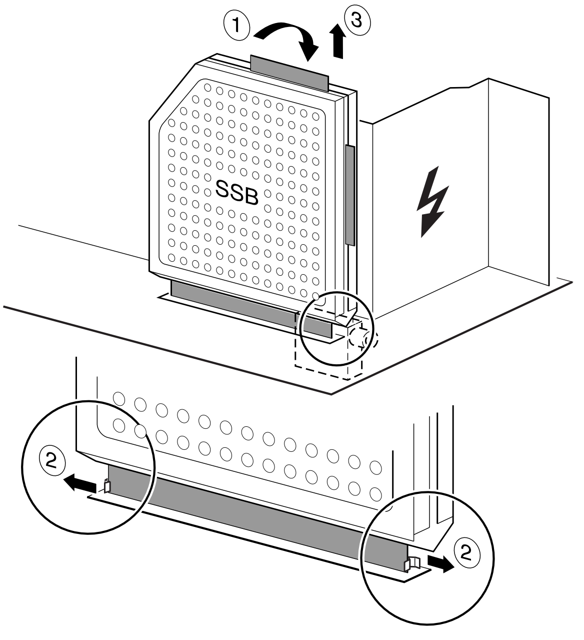


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Figure 4-6 SSB removal (part 2)

1. Push the top of the SSB towards the LOT [1].
2. Due to the pressure, the two metal clamps at both sides of the SIMM-connector will release [2].
3. Take the complete SSB out [3].

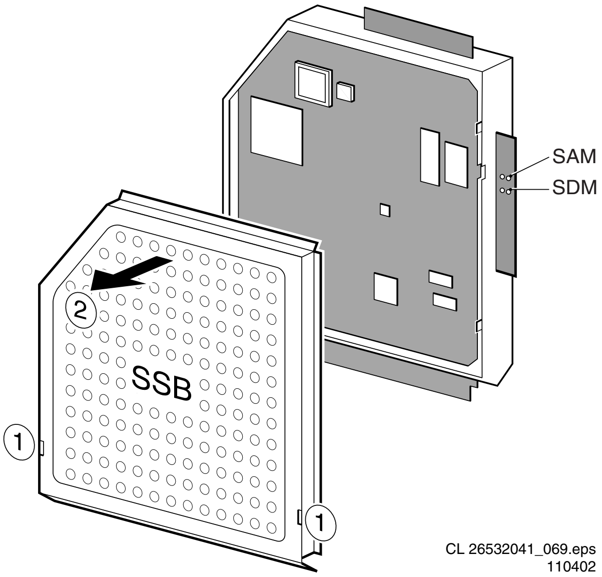

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Figure 4-7 SSB removal (part 3)

1. Once you have taken out the SSB, remove the shieldings [2]. Sometimes it is necessary to unsolder some solder-tags first [1].
2. Now re-place the SSB module in the SIMM-connector in reverse order.

Notes:
For better access to the SSB, it is possible to order an 'extension tool' with cables. You can use this service extension tool to connect a Small Signal Board (SSB) of an A10 or EMG (EMx) chassis, via 2 “IDE” cables to the SIMM connector in the set. In this way, you can service the SSB more easily outside the TV set. You can order this tool under 12nc: 9965 000 14526.

4.4 Assy / Board Removal

Sometimes, it can be necessary to swap a complete assy or Printed Wiring Board (PWB). How that can be done is explained below.

4.4.1 Top Control Assy/Panel

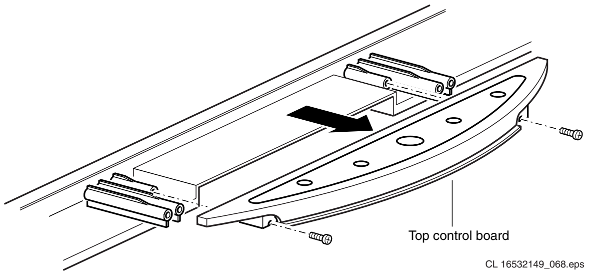

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Figure 4-8 Top control assy

1. Release both fixation screws about 5 full turns.
2. Pull the complete assy back- and upwards (it hinges in the cabinet front).
3. Flip the assy, and you can access the board by releasing (carefully) the four fixation clamps.

4.4.2 Side-I/O Assy and Panel

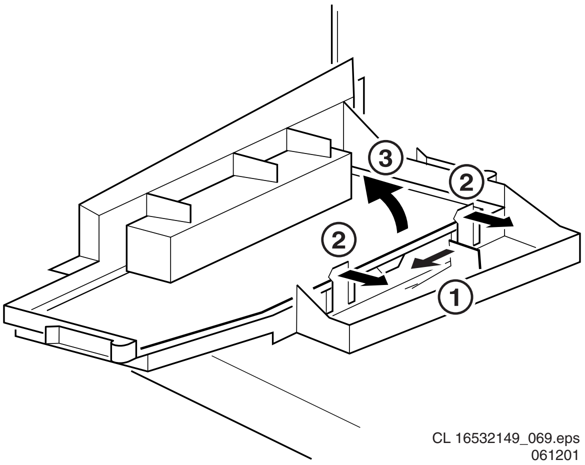

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Figure 4-9 Side I/O assy

1. Release the snap-hook [1] with your finger.
2. At the same time, pull the assy backwards [2].
3. Release the two fixation clamps on the right side of the bracket (the I/O board hinges at the left side).
4. Remove the board from the bracket.

4.4.3 Mains Switch Assy/Panel

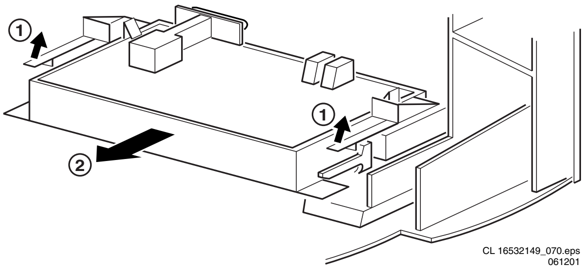

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Figure 4-10 Mains Switch Assy

1. Release the two fixation clamps (rather difficult to reach), by pushing them upwards [1]. At the same time, pull the complete assy backwards [2].
   Note: be aware that the degaussing coil can hamper this.
2. Release the two fixation clamps on the two sides of the bracket (the board hinges at the connector side).
3. Remove the board from the bracket.
4. When the light guide (sitting in the cabinet, in front of the LEDs) is defective, you can replace it by pushing it forwards at the left side (it hinges at the right side, seen from the rear).

4.4.4 DAF Assy/Panel

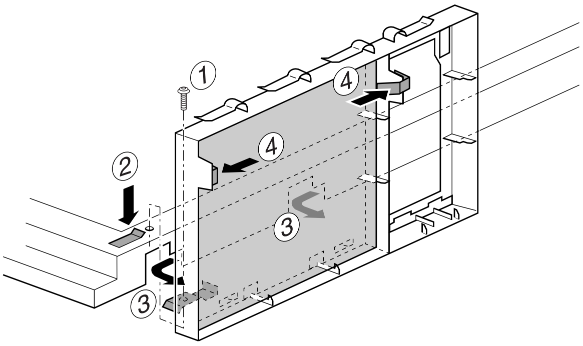


Figure 4-11 DAF-module

1. Remove the fixation screw [1] (if present).
2. Push down the fixation clamp [2], and pull the complete bracket at the same time away from the CRT [3]. The module is now free from the LSP-bracket.
3. Release the fixation clamps [4], in order to remove the print from its bracket.

4.4.5 Double window, PIP panel (If present)

1. It is not necessary to remove the Double window bracket.
2. To remove he Double window PWB, release both upper clamps and take out the PWB.

4.4.6 Auto-SCAVEM Assy/Panel

This panel is placed on the left side of the SSB (See figure 'Service Position 2'). Because most of its components are placed on the bottom side, you must lift the panel from its bracket before you can measure it.

1. Therefore, release the two fixation clamps at the top side.
2. Lift the panel from the bracket (it hinges at the bottom).

To remove the bracket:

1. First, remove the panel from the bracket, as described above.
2. Then, remove the two fixation screws at the bottom.
3. Lift the Auto-Scavem bracket slightly up, and at the same time bend the top a little away from the tuner.
4. Now, push the bracket into the direction of the CRT, and lift it out of the LSP-bracket.

4.4.7 Small Signal Board (SSB)

See paragraph 'Small Signal Board (SSB)' above.

4.4.8 Large Signal Panel (LSP)

1. Remove the SSB (see paragraph 'Small Signal Board,SSB' above).
2. Remove the Auto-Scavem assy (see paragraph 'Auto Scavem Assy/Panel' above).
3. Disconnect the necessary cables.
4. Release the fixation clamps on the left of the LSP-bracket (the board hinges at the right side).
5. Remove the board from the bracket.

4.5 Set Re-assembly

To reassemble the whole set, do all processes in reverse order.

Be sure that, before the rear cover is mounted:

- The mains cord is mounted correctly in its guiding brackets.
- All wires/cables are returned in their original positions. This is very important due to the large 'hot' area of the set

5. Service Modes, Error Codes, and Fault Finding

Index of this chapter:

1. Test points
2. Service Modes
3. Problems and solving tips (related to CSM)
4. ComPair
5. Error Codes
6. The blinking LED procedure
7. Protections
8. Repair tips

5.1 Test Points

The chassis is equipped with test points printed on the circuit board assemblies. They refer to the diagram letters.

Perform measurements under the following conditions:

- Service Default Mode.
- Video: colour bar signal.
- Audio: 3 kHz left, 1 kHz right.

5.2 Service Modes

Service Default Mode (SDM) and Service Alignment Mode (SAM) offer several features for the service technician, while the Customer Service Mode (CSM) is used for communication between a Philips Customer Care Centre (P3C) and a customer.

There is also the option of using ComPair, a hardware interface between a computer (see requirements below) and the TV chassis. It offers the ability of structured troubleshooting, test pattern generation, error code reading, software version readout, and software upgrading.
Minimum requirements: a Pentium processor, Windows 95/98, and a CD-ROM drive (see also paragraph "ComPair").

Note: In this chassis, two LED configuration are possible: with bicoloured LED (red/green) or with separate blue and red LEDs. The bicoloured version is the one we know from EM5E. The version with blue LED works slightly different. The blue LED is controlled by software (via ON_OFF_LED). The red LED will light in anti-phase to the blue one, but with a time delay. This means that if the blue LED is blinking fast, the red LED will stay off. But after the blue LED is "OFF" long enough, the red LED will go "ON".
So take care: In certain service modes (e.g. blinking LED, stepwise start-up, etc.) you must observe the blue LED and ignore the red LED.

5.2.1 Service Default Mode (SDM)

Purpose

- To create a pre-defined setting, to get the same measurement results as given in this manual.
- To override SW protections.
- To start the blinking LED procedure.

Specifications

- Tuning frequency: 475.25 MHz for PAL/SECAM.
- Colour system: SECAM L for France or PAL B/G for the rest of Europe.
- All picture settings at 50 % (brightness, colour, contrast).
- All sound settings at 50 %, except volume at 25 %.
- All service-unfriendly modes (if present) are disabled, like:
  - (Sleep) timer.
  - Child/parental lock.
  - Blue mute.
  - Automatic volume limiter (AVL).
  - Auto switch-off (when no video signal was received for 10 minutes).
  - Skip/blank of non-favourite pre-sets.
  - Smart modes.
  - Auto store of personal presets.
  - Auto user menu time-out.

How to enter SDM

Use one of the following methods:

- Use the standard RC-transmitter and key in the code "062596", directly followed by the "MENU" button.
  Note: It is possible that, together with the SDM, the main menu will appear. To switch it off, push the "MENU" button again.
- When you shorten for a moment the two solder pads on the 'external part' of the SSB print, with the indication "SDM". Activation can be performed in all modes, except when the set has a problem with the main-processor.
  Caution: If the SDM is entered via the pins, all the software-controlled protections are de-activated.
- Use the DST-emulation feature of ComPair.
- Use the "DEFAULT" button on the Dealer Service Tool (RC7150).

After entering this mode, "SDM" will appear in the upper right corner of the screen.

How to navigate

When you press the "MENU" button on the RC transmitter, the set will toggle between the SDM and the normal user menu (with the SDM mode still active in the background).

How to exit SDM

Use one of the following methods:

- Switch the set to STANDBY via the RC-transmitter.
- Press the "EXIT" button on the DST.
- Via a standard customer RC-transmitter: key in "00"-sequence.

5.2.2 Service Alignment Mode (SAM)

Purpose

- To perform (software) alignments.
- To change option settings.
- To easily identify the used software version.
- To view operation hours.
- To display (or clear) the error code buffer.

Specifications

- Operation hours counter.
- Software version.
- Option settings.
- Error buffer reading and erasing.
- Software alignments.

How to enter SAM

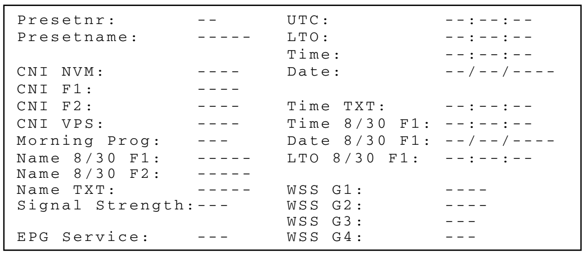
Use one of the following methods:

- Via a standard RC transmitter: key in the code "062596" directly followed by the "OSD [i+]" button. After activating SAM with this method a service warning will appear on the screen, you can continue by pressing any digit key on the RC.
- Short for a moment the two solder pads on the 'external part' of the SSB print, with the indication SAM. Depending on the software version it is possible that the service warning will appear, you can continue by pressing any digit key on the RC.
- Use the DST-emulation feature of ComPair.
- Press the ALIGN button on the DST while the set is in the normal operation

After entering this mode, "SAM" will appear in the upper right corner of the screen.

Contents of SAM:

- **OPERATION HOURS.** Displays the accumulated total of operation hours (not the standby hours).
- **HARDWARE INFO**
  - **ROM VERSION.** Displays the date of the software and the software version of the ROM (example: EM51EU1-1.0_01234 = AAABBC-X.Y_NNNNN).
    - **AAA**= the chassis name.
    - **BB**= the region: EU= Europe, AP= Asia Pacific PAL/Multi, AN= Asia Pacific NTSC, US= USA, LT= LATAM.
    - **C**= the language cluster number.
    - **X.Y**= the software version, where X is the main version number (different numbers are not compatible with one another) and Y is the sub version number (a higher number is always compatible with a lower number).
    - **NNNNN**= last five digits of 12nc code software.
- **ERRORS** (followed by maximal 10 errors). The most recent error is displayed at the upper left (for an error explanation see paragraph "Error Codes").
- **DEFECTIVE MODULE.** Here the module that generates the error is displayed. If there are multiple errors in the buffer, which are not all generated by a single module, there is probably another defect. It will then display the message "UNKNOWN" here.
- **RESET ERROR BUFFER.** When you press the "OK" button, the error buffer is reset.
- **ALIGNMENTS.** This will activate the "ALIGNMENTS" sub-menu.
- **DEALER OPTIONS.** Extra features for the dealers.
- **SERVICE OPTIONS.** Extra features for Service.
- **INITIALISE NVM.** When an NVM was corrupted (or replaced) in the former EM3 chassis, the microprocessor replaces the content with default data (to assure that the set can operate). However, all pre-sets and alignment values are gone now, and option numbers are not correct. Therefore, this was a very drastic way. In this chassis, the procedure is implemented in another way: The moment the processor recognises a corrupted NVM, the "INITIALISE NVM" line will be highlighted. Now, you can do two things (dependent of the service instructions at that moment):
  - Save the content of the NVM via ComPair for development analysis, before initialising. This will give the Philips Service department an extra possibility for diagnosis (e.g. when Development asks for this).
  - Initialise the NVM (same as in the past, however now it happens conscious).
- **STORE.** All options and alignments are stored when pressing the "OK"-button
- **FUNCTIONAL TEST.** All devices are tested via the "OK" button. Eventual errors are displayed in the error buffer. The error buffer is not erased, the content returns when this test is terminated.
- **DAILY MENUS.** With the "OK" button, you can go to the normal user menu. SAM is still active in the background. With the "MENU" button, you return from the user menu to SAM menu. This feature can be helpful to quickly change some settings in the user menu.
- **SW MAINTENANCE**
  - **UPGRADE.** Not applicable for this chassis
  - **EVENTS.** Not useful for service purposes. In case of specific software problems, the development department can ask for this info.
  - **BDM INFO.** Broadcast Debug Menu info. The purpose of this menu is to debug the broadcast, NOT the TV. The menu gives an overview of what is received on the current preset. Following items are displayed:



```
Presetnr:       --      UTC:          --:--:--
Presetname:     -----   LTO:          --:--:--
                        Time:         --:--:--
CNI NVM:        ----    Date:         --/--/----
CNI F1:         ----
CNI F2:         ----    Time TXT:     --:--:--
CNI VPS:        ----    Time 8/30 F1: --:--:--
Morning Prog:   ---     Date 8/30 F1: --/--/----
Name 8/30 F1:   -----   LTO 8/30 F1:  --:--:--
Name 8/30 F2:   -----
Name TXT:       -----   WSS G1:       ----
Signal Strength:---     WSS G2:       ----
                        WSS G3:       ---
EPG Service:    ---     WSS G4:       ---
```

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Figure 5-1 Broadcast debug menu overview

Table 5-1 Broadcast debug menu explanation

Item	Source	Description
Presetnr	Set	Presetnumber of the current selected preset.
Presetname	Set	Presetname of the current selected preset.
CNI NVM	Broadcaster	CNI number stored in NVM for the current preset.
CNI F1	Broadcaster	CNI number from transmitted Packet 8/30 Format 1.
CNI F2	Broadcaster	CNI number from transmitted Packet 8/30 Format 2.
CNI VPS	Broadcaster	CNI number from transmitted VPS line.
Morning Prog	Broadcaster	"ARD" or "ZDF" according to dedicated bit in 8/30 Format 1.
Name 8/30 F1	Broadcaster	Name extracted from status message of 8/30 Format 1.
Name 8/30 F2	Broadcaster	Name extracted from status message of 8/30 Format 2.
Name TXT	Broadcaster	Name extracted from TXT header.
Signal Strength	FBX	Noise figure measured for selected preset.
EPG Service	Set	EPG Service stored in NVM for current preset displayed as "TXT", "MCP", "SCP", "OCP".
UTC	Set	UTC (Universal Time Code formerly known as Greenwich Mean Time) used in the set.
LTO	Set	LTO (Local Time Offset) used in the set. Used by EPG for all Nextview displays. (= Time TXT header - Time 8/30 F1)
Time	Set	Current time running in the set. Was extracted at startup, then maintained by software.
Date	Set	Current date running in the set. Was extracted at startup, then maintained by software.
Time TXT	Broadcaster	TXT header time from the selected preset.
Time 8/30 F1	Broadcaster	UTC time from 8/30 Format 1.
Date 8/30 F1	Broadcaster	Date from 8/30 Format 1.
LTO 8/30 F1	Broadcaster	LTO from 8/30 Format 1.
WSS G1	Broadcaster	WSS Group 1 (Aspect Ratio) bits 0 1 2 3
WSS G2	Broadcaster	WSS Group 2 (Enhanced Services) bits 4 5 6 7
WSS G3	Broadcaster	WSS Group 3 (Subtitles) bits 8 9 10
WSS G4	Broadcaster	WSS Group 4 (Reserved) bits 11 12 13

How to navigate

- In SAM, you can select the menu items with the "CURSOR UP/DOWN" key on the RC-transmitter. The selected item will be highlighted. When not all menu items fit on the screen, move the "CURSOR UP/DOWN" key to display the next/previous menu items.
- With the "CURSOR LEFT/RIGHT" keys, it is possible to:
  - (De) activate the selected menu item.
  - Change the value of the selected menu item.
  - Activate the selected submenu.

How to exit SAM

Use one of the following methods:

- Press the "MENU" button on the RC-transmitter, or
- Switch the set to STANDBY via the RC-transmitter, or
- Press the "EXIT" button on the DST.

5.2.3 Customer Service Mode (CSM)

Purpose

When a customer is having problems with his TV-set, he can call his dealer. The service technician can than ask the customer to activate the CSM, in order to identify the status of the set. Now, the service technician can judge the severity of the complaint. In many cases, he can advise the customer how to solve the problem, or he can decide if it is necessary to visit the customer.

The CSM is a read only mode; therefore, modifications in this mode are not possible.

How to enter CSM

Use one of the following methods:

- Press the "MUTE" button on the RC-transmitter simultaneously with the "MENU" button on the TV (top control) for at least 4 seconds.
- Key in the code "123654" via the standard RC transmitter.

Note: Activation of the CSM is only possible if there is no (user) menu on the screen!

How to navigate

By means of the "CURSOR-DOWN/UP" knob on the RC-transmitter, you can navigate through the five menus.

Contents of CSM

Customer Service Menu 1

- **SOFTWARE VERSION (example: EM51EU1-1.0_01234).** Displays the build in software version. In case of field problems related to software, software flash-RAM pos.7006 must be changed by a new one. Do this via soldering. You will find details of the software versions in the chapter "Software Survey" of the "Product Survey - Colour Television" publication. This publication is generated four times a year.
- **FEATURE BOX.** The 12NC-number of the build in Feature Box software
- **SET TYPE.** This information is very helpful for a helpdesk/ workshop as reference for further diagnosis. In this way, it is not necessary for the customer to look at the rear of the TV-set.
- **CODE 1.** Gives the latest 5 errors of the error buffer. As soon as the built-in diagnose software has detected an error the buffer is adapted. The last occurred error is displayed on the leftmost position. Each error code is displayed as a 3-digit number. When less than 10 errors occur, the rest of the buffer is empty (000). See also paragraph "Error Codes" for a description.
- **CODE 2.** Gives the first 5 errors of the error buffer. See also paragraph Error Codes for a description.
- **VOLUME.** Gives the last status of the volume as set by the customer. The value can vary from 0 (volume is minimum) to 100 (volume is maximum). Volume values can be changed via the volume key on the RC-transmitter.
- **BRIGHTNESS.** Gives the last status of the brightness as set by the customer. The value can vary from 0 (brightness is minimum) to 100 (brightness is maximum). Brightness values can be changed via the "CURSOR LEFT" and "CURSOR RIGHT" keys on the RC-transmitter after pressing the "MENU" button and selecting "PICTURE" and "BRIGHTNESS".
- **CONTRAST.** Gives the last status of the contrast as set by the customer. The value can vary from 0 (contrast is minimum) to 100 (contrast is maximum). Contrast values can be changed via "CURSOR LEFT" and "CURSOR RIGHT" keys on the RC-transmitter after pressing the "MENU" button and selecting "PICTURE" and "CONTRAST".
- **COLOUR.** Gives the last status of the colour saturation, as set by the customer. The value can vary from 0 (colour is minimum) to 100 (colour is maximum). Colour values can be changed via "CURSOR LEFT" and "CURSOR RIGHT" keys on the RC-transmitter after pressing the "MENU" button and selecting "PICTURE" and "COLOUR".
- **HUE.** Only relevant for NTSC-signals (e.g. some NTSC-DVD-discs).

Customer Service Menu 2

- **SHARPNESS**. Gives the sharpness value. The value can vary from 0 (sharpness is minimum) to 7 (sharpness is maximum). In case of bad antenna signals, a too high value of the sharpness can result in a noisy picture. Sharpness values can be changed via the "CURSOR LEFT" and "CURSOR RIGHT" keys on the RC-transmitter after pressing the "MENU" button and selecting "PICTURE" and "SHARPNESS".
- **HEADPHONE VOLUME**. Gives the last status of the headphone volume, as set by the customer. The value can vary from 0 (volume is minimum) to 100 (volume is maximum). Headphone volume values can be changed via the "CURSOR LEFT" and "CURSOR RIGHT" keys on the RC-transmitter after pressing the "MENU" button and selecting "SOUND" and "HEADPHONE VOLUME".
- **DOLBY**. Indicates whether the received transmitter transmits Dolby sound ("ON") or not ("OFF"). Attention: The presence of Dolby can only be tested by the software on the Dolby Signalling bit. If a Dolby transmission is received without a Dolby Signalling bit, this indicator will show "OFF" even though a Dolby transmission is received.
- **SURROUND MODE**. Indicates the by the customer selected surround mode (or automatically chosen mode). In case the set is a Non-Dolby set, there will be displayed "0". If it is a Dolby-set then is displayed: "STEREO", "3 STEREO", "HALL", "3DSURROUND", "DOLBY PRO LOGIC" or "DOLBY DIGITAL". These settings can be influenced after pressing the "MENU" button and selecting "SOUND" and SURROUND MODE". It can also have been selected automatically by signalling bits (internal software).
- **TUNER FREQUENCY**. Indicates the frequency the selected transmitter is tuned to. The tuner frequency can be changed via the "CURSOR LEFT" and "CURSOR RIGHT" keys for fine tune after opening the installation menu and selecting "INSTALL" and "MANUAL INSTALL".
- **DIGITAL OPTION**. Gives the selected digital mode, "100 HZ", "DIGITAL SCAN", "NATURAL MOTION", "DOUBLE LINES", or "PIXEL PLUS". Change via "MENU", "PICTURE", "DIGITAL OPTIONS".
- **CENTRE TRIM.** Indicates the difference between main volume and volume of centre speaker. Change via: "MENU", "SETUP", "SPEAKERS", and "CENTRE VOLUME" (not available when "Surround Mode" is set to "STEREO" or "HALL"). The value can vary from "-10" to "+10"
- **TV SYSTEM.** Gives information about the video system of the selected transmitter.
  - BG: PAL BG signal received.
  - DK: PAL DK signal received.

- I: PAL I signal received.
- L/La: SECAM L/La signals received.
- M: NTSC M signal received with video carrier on 38.9 MHz.

Customer Service Menu 3

- **BALANCE.** Indicates the balance settings, between "-50" and "+50". Change via "MENU", "SOUND", and "BALANCE". Not applicable for Dolby Pro Logic sets.
- **CENTRE MODE.** Indicates if centre mode is set "ON" or "OFF". When centre mode is on, all TV speakers are used as one centre speaker. Change Centre mode via "MENU", "SETUP", "SPEAKERS", and "CENTRE MODE".
- **DNR.** Gives the selected DNR setting (Dynamic Noise Reduction), "OFF", "MINIMUM", "MEDIUM", or "MAXIMUM". Change via "MENU", "PICTURE", "DNR"
- **NOISE FIGURE.** Gives the noise ratio for the selected transmitter. This value can vary from 0 (good signal) to 127 (average signal) and to 255 (bad signal). For some software versions, the noise figure will only be valid when "Active Control" is set to "medium" or "maximum".
- **SOURCE.** Indicates which source is used and the video/audio signal quality of the selected source. (Example: Tuner, Video/NICAM) Source: "TUNER", "EXT1", "EXT2", "EXT3", "EXT4", "SIDE", "AV1", "AV2", "AV3" or "AV4". Video signal quality: "VIDEO", "S-VIDEO", "RGB 1FH", "YPBPR 1FH 480P", "YPBPR 1FH 576P", "YPBPR 1FH 1080I", "YPBPR 2FH 480P", "YPBPR 2FH 576P", "YPBPR 2FH 1080I", "RGB 2FH 480P", "RGB 2FH 576P" or "RGB 2FH 1080I". Audio signal quality: "STEREO", "SPDIF 1", "SPDIF 2" or "SPDIF".
- **AUDIO SYSTEM.** Gives information about the audio system of the selected transmitter: "ANALOGUE MONO", "ANALOGUE STEREO", "PCM 2/0", "DD 1/0", "DD 2/0 LtRt", "DD 2/0 L0R0", "DD 2/1", "DD 2/2", "DD 3/0", "DD 3/1", "DD 3/2", "DD 1+1", "MPEG 1/0", "MPEG 2/0", "MPEG 2/0 LtRt", "MPEG 2/1", "MPEG 2/2", "MPEG 3/0", "MPEG 3/1", "MPEG 3/2", "MPEG 1+1" or "MPEG 2+2".
- **TUNED BIT.** Gives information about the tuning method of the stored pre-set. If a channel is found via "automatic installation", you will see the value "Off". When you change this (automatically found) frequency via "fine tune" adjustment (installation menu - manual installation), the displayed value will change to "On". Therefore, when you see the value "On" in this line, it is an indication that the received channel is a non-standard signal (e.g. of a VCR).
- **SURROUND SPEAKERS.** Indicates if the surround speakers are present, "YES" or "NO". Change via "MENU", "SETUP", "SPEAKERS", and "SURROUND SPEAKERS".
- **ON TIMER.** Indicates if the "On Timer" is set "ON" or "OFF" and if the timer is "ON" also displays start time, start day and program number. Change via "MENU", "TV", "FEATURES", and "ON TIMER".
- **PRESET LOCK.** Indicates if the selected preset has a child lock: "LOCKED" or "UNLOCKED". Change via "MENU", "TV", "FEATURES", "CHILD LOCK", and "CUSTOM LOCK".

Customer Service Menu 4

- **CHILD LOCK.** Indicates the last status of the general child lock: "UNLOCK", "LOCK", or "CUSTOM LOCK". Change via "MENU", "TV", "FEATURES", "CHILD LOCK", and "LOCK".
- **AGE LOCK.** Indicates the last status of the EPG rating for child lock: "OFF", "4 YEARS", "6 YEARS", "8 YEARS", "10 YEARS", "12 YEARS", "14 YEARS" or "16 YEARS". This is only displayed if child lock is set to "CUSTOM LOCK"
- **LOCK AFTER.** Indicates at what time the child lock is set: "OFF" or e.g. "18:45" (lock time). This is only displayed if child lock is set to "CUSTOM LOCK"
- **CATEGORY LOCK.** Indicates the last status of the EPG theme childlock: "MOVIES", "NEWS", "SHOWS", "SPORTS", "CHILDREN", "MUSIC", "CULTURE", or "SERIES". This is only displayed if child lock is set to "CUSTOM LOCK". It is possible that more than one value is shown.
- **PROGRAM CATEGORY.** Indicates the theme of the selected transmitter: "MOVIES", "NEWS", "SHOWS", "SPORTS", "CHILDREN", "MUSIC", "CULTURE", or "SERIES".
- **TV RATINGS LOCK.** Only applicable for US.
- **MOVIE RATINGS LOCK.** Only applicable for US.
- **V-CHIP TV STATUS.** Only applicable for US.

Customer Service Menu 5

- **V-CHIP MOVIE STATUS.** Only applicable for US.
- **OPTIONS 1.** Gives the option codes of option group 1 as set in SAM (Service Alignment Mode).
- **OPTIONS 2.** Gives the option codes of option group 2 as set in SAM (Service Alignment Mode).
- **AVL.** Indicates the last status of AVL (Automatic Volume Level): "ON" or "OFF". Change via "MENU", "TV", "SOUND", "AVL"
- **DELTA VOLUME.** Indicates the last status of the delta volume for the selected preset as set by the customer: from "-12" to "+12". Change via "MENU", "TV", "SOUND", "DELTA VOLUME".
- **SURROUND TRIM L.** Indicates the last status of "SURROUND LEFT VOLUME" as set by the customer: from "-10" to "+10". Only available in Digital Dolby sets. Change via "MENU", "SETUP", "SPEAKERS", "SURROUND L VOLUME.
- **SURROUND TRIM R.** Indicates the last status of "Surround Right Volume" as set by the customer: from "-10" to "+10". Only available in Digital Dolby sets. Change via "MENU", "SETUP", "SPEAKERS", "SURROUND R VOLUME.
- **FRONT SPKR DIST.** Indicates the last status of the distance to the front speakers as set by the customer: "1m", "2m", or "3m",.... Change via "MENU", "SETUP", "SPEAKERS", "TO FRONT".
- **SURR. SPKR DIST.** Indicates the last status of the distance to the surround speakers as set by the customer: "1m", "2m", or "3m",.... Change via "MENU", "SETUP", "SPEAKERS", "TO SURROUND".

How to exit CSM

Use one of the following methods:

- After you press a key on the RC-transmitter (with exception of the "CHANNEL", "VOLUME" and digit (0-9) keys), or
- After you switch the TV-set "OFF" with the mains switch.

5.3 Problems and Solving Tips (related to CSM)

Note: Below described problems are all related to the TV settings. The procedures to change the value (or status) of the different settings are described above. New value(s) are automatically stored.

5.3.1 Picture Problems

Snowy/noisy picture

1. Check line 24 "Noise Figure". In case the value is 127 or higher, and the value is also high on other programs, check the aerial cable/aerial system. For some software versions, the noise figure will only be valid when "Active Control" is set to "medium" or "maximum".
2. Check lines 11 "Sharpness" and 24 "Noise Figure". In case the value of line 11 is 3 or 4 and the value of line 24 is high (127 or higher), decrease the "Sharpness" value.

Picture too dark

1. Press "MENU", "TV", "PICTURE", "SMART PICTURE". In case the picture improves, increase the "Brightness" or the "Contrast" value. The new value(s) are automatically stored (in "personal" pre-set) for all TV channels.

2. Check line 7 "Brightness" and 8 "Contrast". If the value of line 7 is low (< 10) or the value of line 8 is low (< 10), increase the "Brightness" or the "Contrast" value.

Picture too bright

1. Press "MENU", "TV", "PICTURE", "SMART PICTURE". In case the picture improves, decrease the "Brightness" or the "Contrast" value. The new value(s) are automatically stored (in "personal" pre-set) for all TV channels.
2. Check lines 7 "Brightness" and 8 "Contrast". If the value of line 7 is high (> 40) or the value of line 8 is high (> 50). Decrease the "Brightness" value or increase the "Contrast" value.

White line around picture elements and text

1. Press "MENU", "TV", "PICTURE", "SMART PICTURE". In case the picture improves, decrease the "Sharpness" value. The new value is automatically stored (in "personal" pre-set) for all TV channels.
2. Check line 11 "Sharpness". Decrease the "Sharpness" value. The new value is automatically stored for all TV channels.

No picture

Check line 27 "Tuned bit". In case the value is "No", install the required program again. Open the installation menu and perform manual installation.

Blue picture

No proper signal is received. Check the aerial cable/aerial system.

Blue picture and/or unstable picture

A scrambled or decoded signal is received.

Black and white picture

Check line 9 "Colour". In case the value is low (< 10), increase the "Colour" value. The new value is automatically stored for all TV channels.

No colours/colour lines around picture elements or colours not correct or unstable picture

1. Check line 20 "TV System". If a "strange" system pops up, something has gone wrong during installation. Re-install the channel.
2. In case line 20 is "L", the installed system for this pre-set is "France", while "West Europe" is required. Install the required program again: open the installation menu and perform manual installation. Select system "West Europe".

Menu text not sharp enough

1. Press "MENU", "TV", "PICTURE", "SMART PICTURE". In case picture improves, decrease the contrast value. The new value(s) are automatically stored for all TV channels.
2. Check line 8 "Contrast". The value of line 8 is high (> 50). Decrease the contrast value.

5.3.2 Sound Problems

No sound from left and right speaker

Check line 6 "Volume". The value is low. Increase the value of "Volume". The new value(s) are automatically stored (in "personal" pre-set) for all TV channels.

Sound too loud for left and right speaker

Check line 6 "Volume". The value is high. Decrease the value of " Volume". The new value(s) are automatically stored (in "personal" pre-set) for all TV channels.

5.4 ComPair

5.4.1 Introduction

ComPair (Computer Aided Repair) is a service tool for Philips Consumer Electronics products. ComPair is a further development on the European DST (service remote control), which allows faster and more accurate diagnostics. ComPair has three big advantages:

- ComPair helps you to quickly get an understanding on how to repair the chassis in a short time by guiding you systematically through the repair procedures.
- ComPair allows very detailed diagnostics (on I2C level) and is therefore capable of accurately indicating problem areas. You do not have to know anything about I2C commands yourself because ComPair takes care of this.
- ComPair speeds up the repair time since it can automatically communicate with the chassis (when the microprocessor is working) and all repair information is directly available. When ComPair is installed together with the SearchMan electronic manual of the defective chassis, schematics and PWBs are only a mouse click away.

5.4.2 Specifications

ComPair consists of a Windows based faultfinding program and an interface box between PC and the (defective) product. The ComPair interface box is connected to the PC via a serial or RS232 cable.
For this chassis, the ComPair interface box and the TV communicate via a bi-directional service cable via the service connector.

The ComPair faultfinding program is able to determine the problem of the defective television. ComPair can gather diagnostic information in two ways:

- **Automatic** (by communication with the television): ComPair can automatically read out the contents of the entire error buffer. Diagnosis is done on I2C level. ComPair can access the I2C bus of the television. ComPair can send and receive I2C commands to the micro controller of the television. In this way, it is possible for ComPair to communicate (read and write) to devices on the I2C busses of the TV-set.
- **Manually** (by asking questions to you): Automatic diagnosis is only possible if the micro controller of the television is working correctly and only to a certain extends. When this is not the case, ComPair will guide you through the faultfinding tree by asking you questions (e.g. Does the screen give a picture? Click on the correct answer: YES / NO) and showing you examples (e.g. Measure test-point I7 and click on the correct oscillogram you see on the oscilloscope). You can answer by clicking on a link (e.g. text or a waveform picture) that will bring you to the next step in the faultfinding process.

By a combination of automatic diagnostics and an interactive question / answer procedure, ComPair will enable you to find most problems in a fast and effective way.

Beside fault finding, ComPair provides some **additional features** like:

- Up- or downloading of pre-sets.
- Managing of pre-set lists.
- Emulation of the Dealer Service Tool (DST).
- If both ComPair and SearchMan (Electronic Service Manual) are installed, all the schematics and the PWBs of the set are available by clicking on the appropriate hyperlink.
  Example: Measure the DC-voltage on capacitor C2568 (Schematic/Panel) at the Mono-carrier.
  - Click on the "Panel" hyperlink to automatically show the PWB with a highlighted capacitor C2568.
  - Click on the "Schematic" hyperlink to automatically show the position of the highlighted capacitor.

5.4.3 Stepwise Start-up

Under normal circumstances, a fault in the power supply, or an error during start-up, will switch the television to protection mode. ComPair can take over the initialisation of the television. In this way, it is possible to distinguish which part of the start-up routine (hence which circuitry) is causing the problem. Take notice that the transition between two steps can take some time, so give the set some time to reach a stable state. During the transition time the LED can blink strangely.

Stepwise start- up explanation
This is realised via ComPair and is very helpful when a protection is activated (see also chapter "Protections").

Table 5-2 Stepwise start-up table

State	Description mode	Display LED	Enabled protection
0	Low power standby: 5V2/3V3 present, uP in standby-mode	On	None
1	High power Standby: TV-set in standby-mode	Wait 1s, flash 1 x	None
2	Main Power On : HOP in standby, 5V/8V present, I2C protections on, SSB is powered by standby-supply (5V/8V). De-gaussing (12 s) has been activated, MSP is reset.	Wait 1s, flash 2 x	4 & 5
3	Initialized (Semi stand-by): most IC's are initialized, HOP still in standby	Wait 1s, flash 3 x	Plus 1, 6 & 18
4	HOP : HOP fully powered and working, EHT is present, rest of IC's initialized, black current stabilisation is off, picture is still blanked	Wait 1s, flash 4 x	Plus 2 & 16
5	On: TV-set operates, black current stabilisation is on, picture is unblanked	Wait 1s, flash 5 x	

Note (*):
- When the set is in stepwise mode and, due to stepping-up, a protection is activated, the set will really go into protection (blinking LED). The set will not leave the stepwise-mode however. If state X is the state where the set went to protection, stepwise start-up will return to state X-1. At state (X-1) diagnostic measurements can be performed. Also, in the short time the set is in state X but not yet in protection, you can also do some measurements.

5.4.4 How To Connect

1. First, install the ComPair Browser software (see the Quick Reference Card for installation instructions).
2. Connect the RS232 interface cable between a free serial (COM) port of your PC and the PC connector (marked with "PC") of the ComPair interface.
3. Connect the mains adapter to the supply connector (marked with "POWER 9V DC") of the ComPair interface.
4. Switch the ComPair interface "OFF".
5. Switch the television set "OFF" with the mains switch.
6. Connect the ComPair interface cable between the connector on the rear side of the ComPair interface (marked with "I2C") and the ComPair connector at the rear side of the TV (situated just below the tuner input, see also chapter 4).
7. Plug the mains adapter in a mains outlet, and switch the interface "ON". The green and red LEDs light up together. The red LED extinguishes after approx. 1 second while the green LED remains lit.
8. Start the ComPair program and read the "Introduction" chapter.

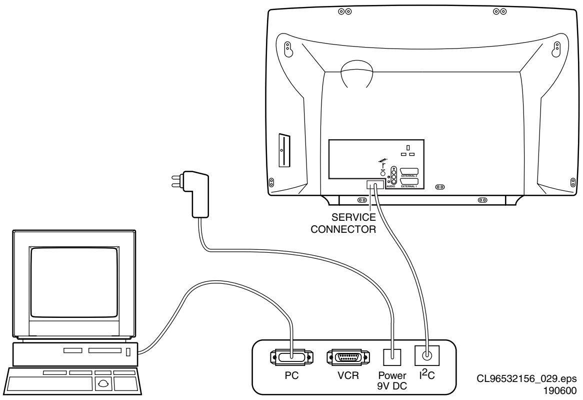

Figure 5-2 ComPair Interface connection

5.4.5 How To Order

ComPair order codes (EU/AP):
- Starter kit ComPair32/SearchMan32 software and ComPair interface (excl. transformer): 3122 785 90450.
- ComPair interface (excluding transformer): 4822 727 21631.
- Starter kit ComPair32 software (registration version): 3122 785 60040.
- Starter kit SearchMan32 software: 3122 785 60050.
- ComPair32 CD (update): 3122 785 60110.
- SearchMan32 CD (update): 3122 785 60120.
- ComPair interface cable: 3122 785 90004.

5.5 Error Codes

5.5.1 Introduction

The error code buffer contains all detected errors since the last time the buffer was erased. The buffer is written from left to right, new errors are logged at the left side, and all other errors shift one position to the right.
When an error has occurred, the error is added to the list of errors, provided the list is not full or the error is a protection error.
When an error occurs and the error buffer is full, then the new error is not added, and the error buffer stays intact (history is maintained), except when the error is a protection error.
To prevent that an occasional error stays in the list forever, the error is removed from the list after 50+ operation hours.
When multiple errors occur (errors occurred within a short time span), there is a high probability that there is some relation between them.

5.5.2 How to read the Error Buffer

Use one of the following methods:
- On screen via the SAM (only if you have a picture). Examples:
  - **0 0 0 0 0:** No errors detected
  - **6 0 0 0 0:** Error code 6 is the last and only detected error
  - **9 6 0 0 0:** Error code 6 was first detected and error code 9 is the last detected error
- Via the blinking LED procedure (when you have no picture). See next paragraph.
- Via ComPair.

5.5.3 How to clear the Error Buffer

Use one of the following methods:

- By activation of the "RESET ERROR BUFFER" command in the SAM menu.
- With a normal RC, key in sequence "MUTE" followed by "062599" and "OK".
- When you transmit the commands "DIAGNOSE" - "99" - "OK" with ComPair (or with a DST).
- If the content of the error buffer has not changed for 50+ hours, it resets automatically.

5.5.4 Error Codes

In case of non-intermittent faults, clear the error buffer before you begin the repair. This to ensure that old error codes are no longer present. Before clearing the buffer, write down the content, as this history can give you significant information.

If possible, check the entire contents of the error buffer. In some situations, an error code is only the result of another error code and not the actual cause (e.g., a fault in the protection detection circuitry can also lead to a protection).

There are various errors:

- I2C device errors.
- I2C bus errors.
- Protection errors.
- Errors not related to an I2C device, but of importance:
  - **BLACK CURRENT LOOP (ERROR 28):** detection of a continuous fail of the black current stabilisation loop of the HOP.
  - **FALCONIC (ERROR 26):** at start-up, after initialisation of the PICNIC, the presence of the FALCONIC can be checked.
  - **EAGLE (ERROR 27):** at start-up, after initialisation of the PICNIC, the presence of the Eagle can be checked.

Table 5-3 Error codes

Error	Device	Description	Def. item	Defect. module indication	Diag
1	M24C32	NVM, spontaneous blinking error 1	7011	Control	B5a
2	Hfail Protection	Horizontal Flyback protection	/	Horizontal Flyback	/
3	SAA4978	PICNIC	7713	Feature Box	B3a
4	Supply 5V	5V protection	/	+5V Supply	B5a
5	Supply 8V	8V protection	/	+8V Supply	B5a
6	Slow I2C bus blocked	Spontaneous blinking error 6	/	Slow I2C Blocked	/
7	TDA9330	HOP High-end Output Processor	7301	Video Controller	B4
8	TDA932x	HIP High-end Input Processor	7323	Chroma IF IO	B2
9	PCF8574	Wireless expander	7501	Sound Output	H
13	UV1318/...	Tuner protection	1T01	Tuner	A8
14	MSPxxxx	ITT sound processor	7A02	Audio module	B6a
16	FBX	Feature Box Protection	/	+3V (Fbx) Supply	B3
18	Fast I2C bus blocked	Spontaneous blinking error 18	/	Fast I2C Blocked	/
19	TDA8444	Auto Scavem DAC	7500	Auto Scavem	SC1
21	M62320P	PIP I/O Expander	7403	Video Dual Screen	C3
22	TDA888X	PIP BOCMA	7301	Video Dual Screen	C4
23	TELE9	PIP Tuner	7201	Video Dual Screen	C2
24	SAB9081	PIP Muppet	7801	Video Dual Screen	C1
26	SAA4992	Falconic	7718	+3V (Fbx) Supply	B3b
27	T8F24EF	Eagle	7724	+3V (Fbx) Supply	B3c
28	Black current loop	Black current loop	/	Video Controller	/
32	M29W400BT	Flash Ram (EPG)	7012	EPG Memory	B5a

Note:
Error codes 1, 6, or 18 are protection codes and in this case, supplies of some circuits will be switched "OFF". Also, in protection, the LED will blink the number of times equivalent to the most recent error code.

5.6 The Blinking LED Procedure

5.6.1 Introduction

Via this procedure, you can make the contents of the error buffer visible via the front LED. This is especially useful for fault finding, when there is no picture.

When the SDM is entered, the front LED will show (blink) the contents of the error-buffer. Error-codes = 10 are shown as follows:

- A long blink of 750 ms (which is an indication of the decimal digit),
- A pause of 1.5 s,
- "n" short blinks (where "n" = 1 - 9),
- When all the error-codes are displayed, the sequence finishes with a LED blink of 3 s,
- The sequence starts again.

Example: Error 12 9 6 0 0.
After activation of the SDM, the red front LED will show:

- 1 long blink of 750 ms (which is an indication of the decimal digit) followed by a pause of 1.5 s,
- 2 short blinks followed by a pause of 3 s,
- 9 short blinks followed by a pause of 3 s,
- 6 short blinks followed by a pause of 3 s,
- 1 long blink of 3 s to finish the sequence,
- The sequence starts again.

Note: If errors 1, 6 or 18 occur, the LED always gives the last occurred error even if the set is NOT in service mode.

5.6.2 How to Enter

Use one of the following methods:

- Enter the SDM (only via soldering pads marked "SDM" on SSB). The blinking red front LED will show the entire contents of the error buffer (this works in "normal operation" mode and in "protection" mode).

- Transmit the commands "MUTE" - "062500" - "OK" with a normal RC. The complete error buffer is shown. Take notice that it takes some seconds before the blinking led LED starts.
- Transmit the commands "MUTE" - "06250x" - "OK" with a normal RC (where "x" is a number between 1 and 5). When x= 1 the last detected error is shown, x= 2 the second last error, etc.... Take notice that it takes some seconds before the blinking led LED starts.
- "DIAGNOSE X" with the DST (where "x" is a number between 1 and 5). When x= 1 the last detected error is shown, x= 2 the second last error, etc.... When x = 0 all errors are shown.

5.7 Protections

5.7.1 Introduction

This chassis has only one microprocessor (OTC), which remains active during Standby. This because power of the microprocessor and the attached memory chip set is coming from the 3V3 supply, which is derived from the 5V Standby-circuitry. Therefore, in both Power-on as in Standby mode, the microprocessor is connected to this power supply.

If a fault situation is detected, an error code will be generated and if necessary, the set is put in protection mode. The protection mode is indicated by the blinking of the front LED at a frequency of 3 Hz (or by a coded blinking in special cases). In some error cases however, the microprocessor does not put the set in the protection mode (this is the case with the -hardware - loudspeaker protection of the audio amplifier).

The content of the error buffer can be read via the service menu (SAM), the blinking LED procedure or via DST/ComPair.

To get a quick diagnosis, this chassis has three service-modes implemented:

- The **Customer Service Mode** (CSM).
- The **Service Default Mode (SDM).** Start-up of the set in a predefined way.
- The **Service Alignment Mode** (SAM). In this mode, items of the set can be adjusted via a menu.

You can enter both SDM and SAM modes via the 'service pads' on the SSB, via an RC-transmitter (DST or standard RC), or via ComPair. It is not possible to enter the SAM in "standby"; the TV has to be in "normal operation" mode.

The "Protection Diagram" shows the structure of the protection system. See diagram below.

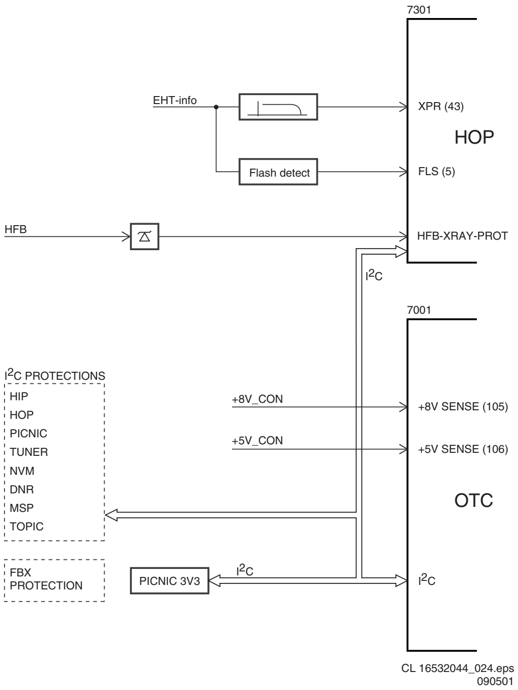

Figure 5-3 Protection diagram

There are several types of protections:

- I2C related protections.
- OTC related protections (via polling on I/O pins or via algorithms).
- HOP related protections (mainly for deflection items).
- Hardware errors that are not sensed by the OTC (e.g. vertical flyback protection, bridge coil protection, E/W protection, arcing protection).

All protections are explained below.

5.7.2 I2C Related Protections

In normal operation, some registers of the I2C controlled ICs are refreshed every 200 ms. During this sequence, the I2C busses and the I2C ICs are checked.
An I2C protection will take place if the SDA and SCL lines are short-circuited to ground, or to each other. An I2C error will also occur, if the power supply of the IC is missing (e.g. FBX_PROT (error 16)).

5.7.3 OTC Related Protections

If a protection is detected at an OTC input, the OTC will start to scan all protection inputs every 200 ms for 5 times. If the protection on one of the inputs is still active after 1 s, the microprocessor will put the set in the protection mode.
Before the scanning is started, a so-called "ESD refresh" is carried out. This is done, because the interrupt on one of the inputs is possibly caused either by a flash or by ESD. As a flash or ESD can influence IC settings, the HIP, MSP, 3D Comb (US only) and wireless module are initialised again, to ensure the normal picture and sound conditions of the set.

8 V and 5 V protection: The microprocessor senses the presence of the 8 V and 5 V (via the "+5V_CON" and "+8V_CON" lines). If one (or both) of these voltages is (are) not present, an error code is stored in the error buffer of the NVM, and the set is put in the protection mode.

5.7.4 HOP Related Protections

Every 200 ms, the status register of the HOP is read by the OTC (via the I2C bus). If a protection signal is detected on one of the inputs of the HOP, the relevant error bit in the HOP register is set to "high". If this error bit is still "high" after 1 s, the OTC will store the error code in the error buffer of the NVM and, depending on the relevancy of the error bit, the set will either go into the protection mode or not.

The following protections are implemented:
- **HFB (Horizontal Flyback):** If the horizontal flyback is not present, this is detected via the HOP (HFB_X-RAY_PROT). One status bit is set to "high". The error code is stored in the error buffer and the set will go into the protection mode.
- **XPR (X-ray protection):** If the HFB pulses are too low (level detection), the HOP will detect this via the XPR-bit. The error will be logged in the error buffer and the set will go into protection mode.

Note: Both errors will be logged as HFB-failure.

5.7.5 Hardware Related Protections

Due to the architecture ("hot" deflection), some protections cannot be sensed by the microprocessor. Three of these protections will lead to a protection on set level (Standby mode and blinking LED), while another will only lead to a circuit protection.

TV-set Protection

The following fault conditions will lead to a "complete" set protection:
- **BRIDGECOIL protection:** This is sensed via the "EW" signal going to the base of TS7652 (via R3495 and D6499). In a normal situation, the voltage on C2498 (diagram A4) is high and TS7652 is conducting. When bridge coil 5422 (diagram A3) is short circuited, the voltage on C2498 changes to low, which will block TS7652. In this case, also TS7641 will block and the voltage on 2642 will rise until TS7443 is forced in conduction. The "SUP-ENABLE" signal (in normal operating condition -20 V) is shorted now to ground level, which will force the Main Power Supply to Standby mode.
- **ARC protection:** If there are "open" connections (e.g. bad solder joints) in the high-energy deflection circuitry, this can lead to damaging effects (read: fire). For that reason, the E/W current is sensed (via 3479//3480). If this current becomes too high, the "thyristor" circuit (TS7653 and TS7654) is triggered. TS7442 is switched "on" and TS7443 is forced into conduction. . The "SUP-ENABLE" signal is shorted now to ground level, which will force the Main Power Supply to Standby mode.
- **NON_VFB (No vertical Flyback) protection:** If the frame stage generates no pulses, TS7641 will block. TS7443 is now switched "on", which will lead to Standby mode. Therefore, in normal operation condition, TS7641 and TS7652 are conducting, while TS7443 is blocked.

Circuit Protection

The following fault condition will lead to a "partly" set protection:
- **PROT1 (DC) protection:** When a DC-voltage (positive or negative) is sensed on one of the loudspeaker outputs, the protection circuit (TS7704, 7705, 7706 and 7707 in diagram A6) will put the IC7700 in Standby mode (via tri-state input pin 6). For more details, see chapter "Circuit Descriptions".

5.8 Repair tips

5.8.1 Miscellaneous

The relay you hear when you switch the set "on" (from Standby or via the mains switch), is from the degaussing circuitry. It is not used for switching the Power Supply (as done in the MG-chassis).

Take care not to touch the "hot" heatsink while disconnecting the SSB, despite the fact that the mains cord is out of the mains socket. There can still be an annoying rest-voltage on the heatsink for a short while. This, because the discharge resistors 3502 and 3503 (on the LSP between hot and cold part) are not stuffed for Europe. Instead, discharge resistors 3066 and 3057 on the Mains Switch panel are used, but because they are located before the Mains switch, they only discharge when this switch is "on".
Advice: when you remove the SSB, disconnect the Mains cord, but keep the Mains Switch "on".

Do not try to measure on the SSB side, which is facing the 'hot' heatsink. This is dangerous. Most service test points are guided to the 'tuner' side and are indicated by the 'service' printing.
Where the circuitry was too "crowded" for service printing, you can find the correct location on the "test point overviews" in this manual.
A very large part of the LSP is **"hot"**, such as:
- The primary part of the Standby Supply.
- The whole Main supply (except for the secondary Audio supply).
- And the complete deflection circuitry (so notice that the deflection coil is hot!).

5.8.2 Start-up Sequence

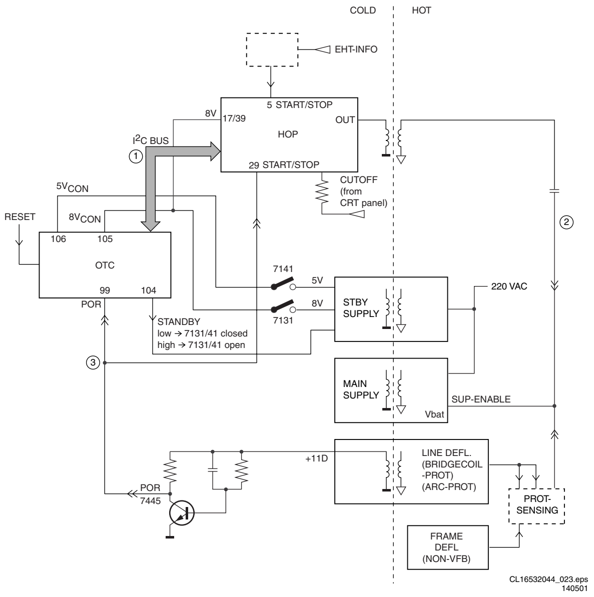

Figure 5-4 Start-up circuitry

The start up sequence differs from other sets (e.g. MG-sets or EM2E-sets, but is same as in EM3E-set):
1. When the set is switched "on", the 5 and 8 V lines ("+5V_CON" and "+8V_CON") of the standby power supply are activated.
2. After the OTC senses them, the P will address the HOP via the I2C-bus, to start the drive [1].
3. Via the "SUP-ENABLE" signal, the Main Supply is switched "on" and will deliver the V_BAT to the Line deflection stage [2].
4. EHT generation is now started.
5. The OTC will un-blank the picture.
6. When you switch "off" the set, this is done in a controlled way via the POR signal [3].

Note: Standby is not directly achieved via the Standby line of the microprocessor, but indirectly via the HOP circuitry.

5.8.3 ComPair

This chassis does not have an IR transmitting LED (as in MG-sets). Therefore, a "Service" (ComPair) connector is implemented at the rear side of the set, which is directly accessible (as in A10-, EM2E-, EM3E and EM5E-sets). In addition to this, there is also a blinking LED procedure to show the contents of the error buffer.

When you use ComPair, you have the possibility to activate a "stepwise start-up" mode. With this mode, you can initiate the start-up sequence step by step. This also means that in certain steps, some protections are not activated. This is sometimes very convenient during repair.

5.8.4 Protections

Activating SDM via the "service pads" will overrule the processor-controlled protections, but not the hardware protections. This means, that the A/D-input protections (5 and 8 V) and the I2C "not-acknowledging" info of the feature box (FBX) and of the Tuner are overruled.
Caution: When doing this, the service technician must know what he is doing, as it could lead to damaging the set.

The "ARC"- and/or "BRIDGECOIL" protection are hardly ever triggered, however:
- When you suspect the "ARC" protection, look for bad solder joints and smell. By interrupting resistor 3497, this protection is disabled (special attention needed!).
- When you suspect the "BRIDGECOIL" protection, which can also be due to a too wide picture amplitude, shorten G and S of the E/W MOSFET 7480. This will disable the protection. You will now have minimal horizontal amplitude. Re-align the horizontal amplitude in the SAM menu and remove the G/S short of TS7480.

5.8.5 Main Supply

The simplest way is, to replace the components of the Main Supply with repair kit 3122 785 90310.

More detailed way:
1. Replace FET 7504 and zener 6505.
2. Remove the SSB panel.
3. Short B and E of TS7529, in order to put the Main Supply in "on"-mode (TS7529 is blocking then).
   Caution: To prevent that R3403 and TS7443 will be damaged, **first disable the HW-protection of the deflection circuit.** Therefore short circuit C2642 on the LSP (diagram A4).
4. Attach a load of 500 O to V_BAT capacitor C2515 (the supply can not work without a minimum load).
5. Use a variac, and slowly increase the V_MAINS. Measure over sensing resistors R3514//15, if a nice sawtooth voltage becomes available.
6. Also measure the V_BAT. This may never exceed +141 V. If it does, there is something wrong in the feedback circuitry (e.g. regulator 7506).

Note: Be careful when measuring on the gate of FET TS7504. This circuitry is very high ohmic and can easily be damaged (first connect ground to measuring equipment, than measure the gate).

5.8.6 Standby Supply

The simplest way is to replace the components of the Standby Supply with repair kit 3122 785 90460.

5.8.7 Line Deflection

The simplest way is to replace the components of the Line Deflection circuitry with repair kit 3122 785 90330.

5.8.8 Frame Deflection

Caution: When the Frame Deflection circuitry is suspected, one must be careful. Because there is a DC-voltage on the frame deflection, **the beam current could damage the CRT neck, leading to a defective CRT.**

To prevent this from happening, you must:
1. Interrupt the resistors 3403 and 3404 on the CRT panel (diagram F1), in order to remove the "filament" voltage from the tube (no beam current, so no chance of destroying the CRT).
2. Interrupt resistor 3403 on the LSP (diagram A4) to disable the "SUP-ENABLE" line.
3. Measure with a multi-meter, or better with a oscilloscope, the functionality of the Frame stage.
4. After you have found the cause, exchange the defective component (e.g. TDA8177), and re-solder the interrupted resistors.

Phenomenon	Possible Cause	Repair tip
No picture, no LED.	Standby Supply defective.	Measure circuitry (see diagram A2). Start at test-point A19. When the Mains switch is ‘on’, this voltage must always be available
No picture, no LED.	Bad connection of SSB in SIMM-connector.	In case of a bad connection, it can happen that there is no picture, and that the Standby LED is not controllable. Re-place the SSB.
No picture, LED blinking at 3 Hz.	Set is in protection due to various causes. For error codes see error-code list.	You have no picture, so: - Read the error buffer via ComPair (error buffer is accessible when set is in protection, compare-file will guide you to this) - Read the blinking LED information via standard remote command <mute>06250X<ok> - Or you read the error code sequence via standard remote command <mute>062500<ok>. When you have found the error, check the circuitry related to the supply voltage and I^2C-communication or the circuitry that triggers the protection.
No picture, LED blinking with code 6-6-6 or 18-18-18.	No communication on slow I^2C- or fast I^2C-bus.	As processor cannot communicate with one of the 2 busses it the standby-led spontaneously starts blinking 6-6-6... or 18-18-18... If in the error buffer somewhere is an error 6 or 18, these will have the highest priority starting the mentioned blinking. Measure dependent of the error on the I^2C-bus which device is loading the bus. (Use I^2C -overview)
No picture, LED blinking with code 1-1-1.	No communication on NVM-I^2C bus to the uP.	As the uP cannot communicate with the NVM I^2C bus, it spontaneously starts blinking 1-1-1. Note: when there is no access to the NVM, a lot of picture setting can go wrong.
No picture, no sound. Set is making audible squeaking sound	Supply is possibly in hiccup-mode, which is audible via a squeaking supply transformer.	Possible causes: - V_{BAT} is shorted (caused by short circuited line transistor 7421), or - Sound winding is shorted (amplifier is shortening the power supply lines), or - D6514 is shorted (due to a too high V_{BAT}). Remove excessive load, to see what causes the failure, or check feedback circuit. See repair tip ‘Main Power Supply’ (supply needs a minimal load).
No picture, no sound. Power LED works fine	Supply does not work correctly.	If e.g. V_{BAT} is only about 90 V, it is possible that the regulator IC (7506) is defective.
No RC-reception. LED does not echo RC-commands.	uP circuitry or RC-receiver is defective.	In case the set does react on a local keyboard operation, you must check the RC-receiver circuitry (diagram E).
Relay (degaussing) is not audible, when set is switched from ‘off‘ or ‘standby’ to ‘on’.	uP is not working correctly. When pin 115 is low, the degaussing must be activated.	Check RESET-circuitry on diagram B5. Check the level on pin 115 when you switch the set ‘on’. Signal must be low initially and go to high after approx. 12 s.
Picture is rotated.	Rotation circuitry on diagram A5, or related supply to it, malfunctions.	Measure test points on diagram A5.
Picture is continuously switching ‘off’ and ‘on’, showing heavy ‘switch’ spots (set does not go into protection).	200 V is missing on CRT panel.	Probably a bad connection from LSP connector 1424 to CRT connector 1424 (diagram F1), or an interruption of the 200 V supply line (e.g. R3341 on circuit F1 is interrupted).
Picture is not sharp.	Focus is possibly mis-aligned or SCAVEM-circuitry does not work correctly.	Re-align the ‘focus’ potmeter on the Line Output Transformer, or check the SCAVEM circuitry on the CRT-panel (diagram F2). It is also possible that the DAF circuitry is defective (see diagram I). Check the Vdc values.
Picture is not synchronised.	The sync is derived in the HIP from x-tal 1305 and/or 1308.	Maybe the crystals 1305 and/or 1308 are making a bad contact.
Picture is distorted.	Check video-path in Service Default Mode.	Investigate whether there is an error code present in the error buffer. In case there is one, check the I^2C -bus and/or supply lines (see overview supply lines). Measure and check signal path Tuner-HIP-PICNIC-HOP-RGB amplifier. In case it is a geometry issue, check on diagram A4 opto-coupler 7482, Opamps 7440/7450 and the Frame circuitry alignments or a possible corrupted NVM (7011) on diagram B5.
Picture with horizontal stripes.	Pixel Plus processing is malfunctioning	Check functionality on circuitry (B3a, B3b, and B3c) of PICNIC (7713), FALCONIC (7718, EAGLE (7724) and/or field memories (7714, 7717, 7719, 7722 and 7723. Tip the whole Pixel Plus chipset (3 ICs + 5 Field Memories can be diagnosed very good via ComPair.
No menu, no OSD.	Probably a defective uP.	Measure test points B61to B64 on diagram B5.
No NexTView (EPG).	IC7012 defective or not powered.	Check circuitry around IC7012 on diagram B5.
No Teletext.	IC7007 defective or not powered.	Check circuitry around IC7007 on diagram B5. Check also B61to B64 around uP on diagram B5.
Strange switch ‘off’ behaviour	TS7445 possibly defective.	Check, with a multi-meter, whether transistor TS7445 is well functioning. (diagram A3).
Various symptoms, due to missing local supply voltage.	An interrupted fuse, NFR-resistor or connection.	When no symptom or error code leads you to a specific circuitry, use the supply lines overview (see chapter 6), for a quick scan of all supply lines.

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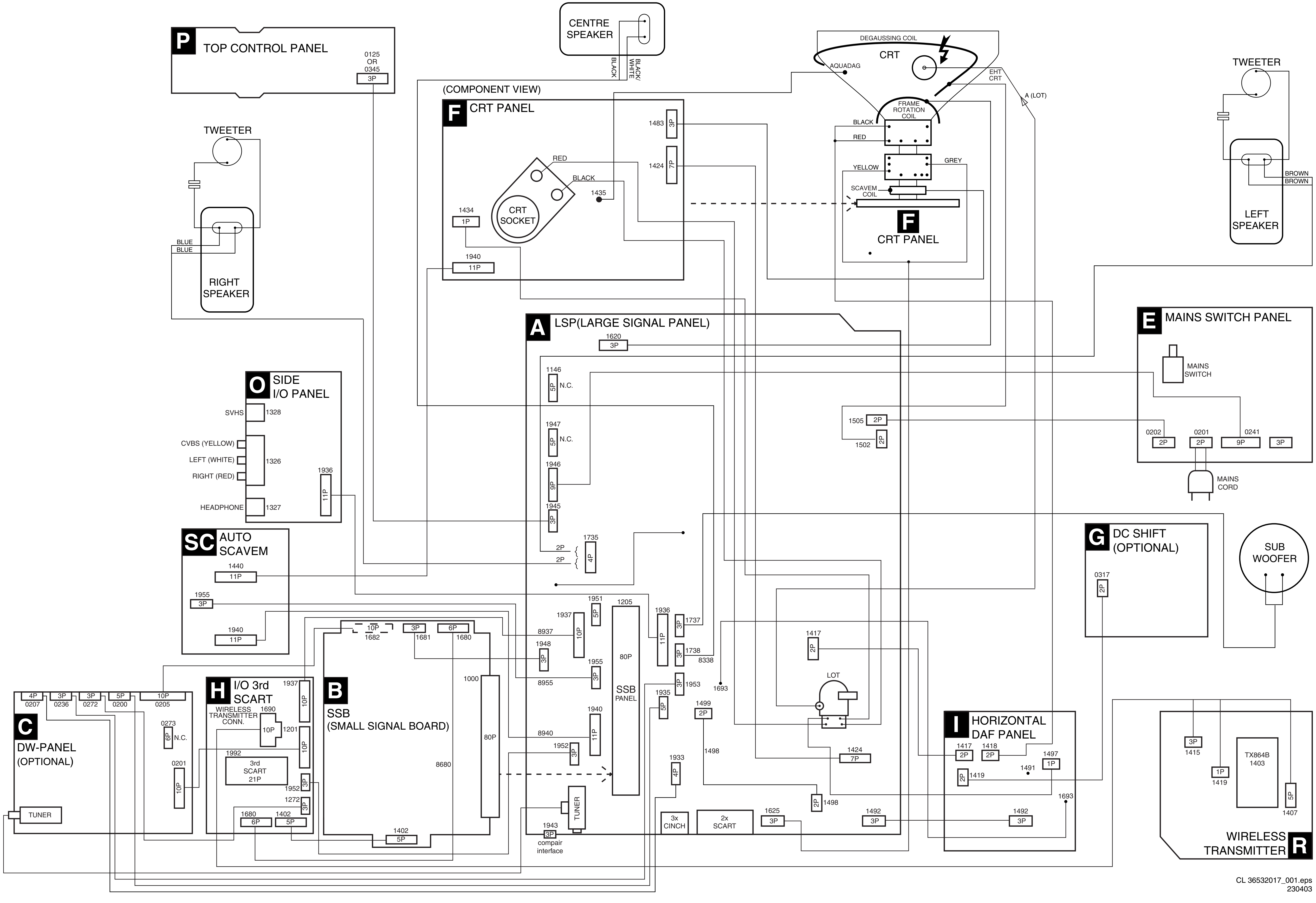
Figure 5-5 Repair tips

Personal Notes:

6. Wiring Diagram, Block Diagrams and Overviews

Wiring Diagram


P TOP CONTROL PANEL
0125 OR 0345
3P
CENTRE SPEAKER
BLACK
BLACK/ WHITE
DEGAUSSING COIL
CRT
AQUADAG
EHT CRT
A (LOT)
FRAME ROTATION COIL
BLACK
RED
YELLOW
GREY
SCAVEM COIL
F CRT PANEL
TWEETER
BROWN
BROWN
LEFT SPEAKER
TWEETER
BLUE
BLUE
RIGHT SPEAKER
(COMPONENT VIEW)
F CRT PANEL
1483 3P
1424 7P
RED
BLACK
1435
1434 1P
CRT SOCKET
1940 11P
A LSP(LARGE SIGNAL PANEL)
1620 3P
1146 5P N.C.
1947 5P N.C.
1946 9P
1945 3P
1735 2P 2P 4P
E MAINS SWITCH PANEL
MAINS SWITCH
0202 2P
0201 2P
0241 9P
3P
MAINS CORD
1505 2P
1502 2P
O SIDE I/O PANEL
SVHS 1328
CVBS (YELLOW)
LEFT (WHITE)
RIGHT (RED)
1326
HEADPHONE 1327
1936 11P
SC AUTO SCAVEM
1440 11P
1955 3P
1940 11P
G DC SHIFT (OPTIONAL)
0317 2P
SUB WOOFER
C DW-PANEL (OPTIONAL)
4P 0207
3P 0236
3P 0272
5P 0200
10P 0205
0273 6P N.C.
0201 10P
TUNER
H I/O 3rd SCART
WIRELESS TRANSMITTER CONN.
1690 10P
1201
1937 10P
10P
1992 3rd SCART 21P
1952 3P
1272 3P
1680 6P
1402 5P
B SSB (SMALL SIGNAL BOARD)
10P 1682
3P 1681
6P 1680
1000
80P
8680
1402 5P
1951 5P
1937 10P
8937
1948 3P
1955 3P
8955
1205
80P
SSB PANEL
1936 11P
1737 3P
1738 3P
8338
1953 3P
1693
1935 5P
1940 11P
8940
1952 3P
1933 4P
1499 2P
1498
TUNER
1943 3P compair interface
3x CINCH
2x SCART
1625 3P
1417 2P
LOT
1424 7P
1498 2P
1492 3P
I HORIZONTAL DAF PANEL
1417 2P
1418 2P
1497 1P
1491
2P 1419
1693
1492 3P
R WIRELESS TRANSMITTER
3P 1415
1P 1419
TX864B 1403
5P 1407

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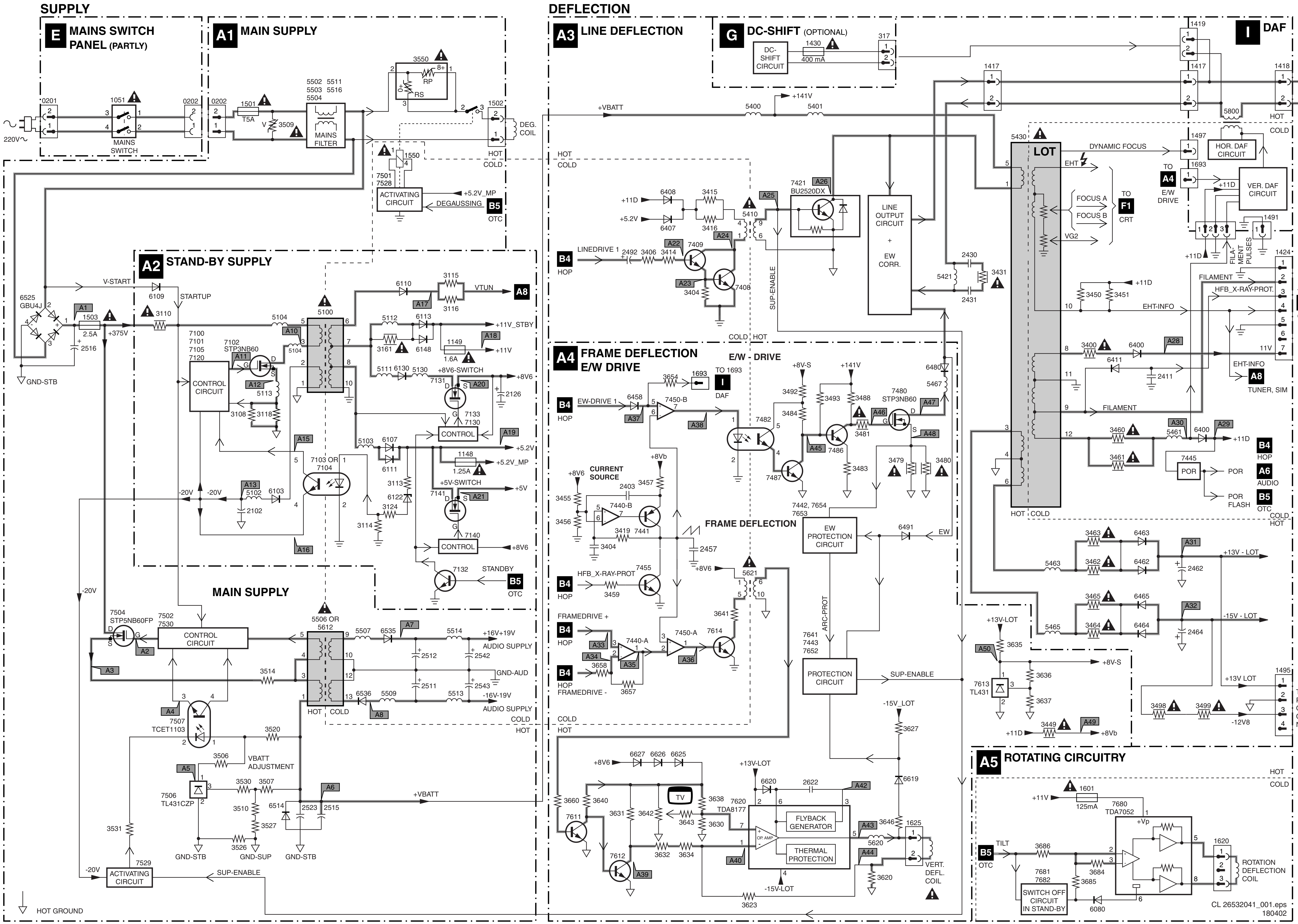
Block Diagram Supply and Deflection


SUPPLY
E MAINS SWITCH PANEL (PARTLY)
0201
1051
0202
MAINS SWITCH
220V~
A1 MAIN SUPPLY
0202
1501
T5A
3509
5502 5511
5503 5516
5504
MAINS FILTER
3550
RP
RS
1502
DEG. COIL
HOT
COLD
1550
7501
7528
ACTIVATING CIRCUIT
+5.2V_MP
DEGAUSSING
B5
OTC
A2 STAND-BY SUPPLY
V-START
6109
STARTUP
6525
GBU4J
1503
2.5A
+375V
2516
3110
GND-STB
7100
7101
7105
7120
CONTROL CIRCUIT
7102
STP3NB60
5104
5100
5113
3108
3118
7103 OR 7104
6110
3115
3116
VTUN
A8
5112
6113
+11V_STBY
3161
6148
1149
1.6A
+11V
5111 6130 5130
+8V6-SWITCH
+8V6
7131
2126
7133
7130
CONTROL
5103
6107
6111
+5.2V
1148
1.25A
+5.2V_MP
+5V-SWITCH
+5V
3113
6122
3124
3114
7141
7140
CONTROL
+8V6
7132
STANDBY
B5
OTC
-20V
5102
6103
2102
MAIN SUPPLY
7504
STP5NB60FP
7502
7530
CONTROL CIRCUIT
5506 OR 5612
5507
6535
5514
+16V+19V
AUDIO SUPPLY
2512
2542
GND-AUD
2511
2543
3514
6536
5509
5513
-16V-19V
AUDIO SUPPLY
HOT
COLD
7507
TCET1103
3520
3506
VBATT ADJUSTMENT
7506
TL431CZP
3530
3507
3510
3527
3526
6514
2523
2515
+VBATT
3531
7529
ACTIVATING CIRCUIT
SUP-ENABLE
GND-STB
GND-SUP
HOT GROUND
DEFLECTION
A3 LINE DEFLECTION
+VBATT
6408
3415
+11D
+5.2V
6407
3416
5410
B4
HOP
LINEDRIVE 1
2492
3406
3414
7409
3404
7408
G DC-SHIFT (OPTIONAL)
DC-SHIFT CIRCUIT
1430
400 mA
317
5400
+141V
5401
7421
BU2520DX
LINE OUTPUT CIRCUIT
+
EW CORR.
SUP-ENABLE
2430
5421
2431
3431
COLD
HOT
A4 FRAME DEFLECTION E/W DRIVE
E/W - DRIVE
3654
1693
TO 1693
DAF
EW-DRIVE 1
6458
7450-B
+8V-S
+141V
3492
3493
3488
7480
STP3NB60
6480
5467
7482
3484
3481
7486
3483
7487
3479
3480
CURRENT SOURCE
+8Vb
+8V6
2403
3457
3455
7440-B
3456
3419
7441
3404
FRAME DEFLECTION
2457
7442, 7654
7653
EW PROTECTION CIRCUIT
6491
EW
HFB_X-RAY-PROT
7455
3459
+8V6
5621
3641
FRAMEDRIVE +
7440-A
7450-A
7614
3658
3657
FRAMEDRIVE -
ARC-PROT
7641
7443
7652
PROTECTION CIRCUIT
SUP-ENABLE
-15V_LOT
3627
6619
+8V6
6627 6626 6625
+13V-LOT
6620
2622
3660
3640
TV
3638
TDA8177
7620
7611
3631
3642
3643
3630
FLYBACK GENERATOR
OP AMP
THERMAL PROTECTION
3632
3634
7612
5620
1625
VERT. DEFL. COIL
3646
3620
3623
-15V-LOT
I DAF
1419
1417
1418
LINE DEFLECTION COIL
5800
HOT
COLD
5430
LOT
DYNAMIC FOCUS
EHT
FOCUS A
FOCUS B
VG2
TO F1 CRT
1497
HOR. DAF CIRCUIT
1693
TO A4 E/W DRIVE
+11D
VER. DAF CIRCUIT
1491
FILA-MENT PULSES
1424
FILAMENT
HFB_X-RAY-PROT.
TO 1224 F CRT
3450
3451
EHT-INFO
3400
6400
6411
2411
11V
EHT-INFO
A8 TUNER, SIM
FILAMENT
3460
5461
6400
+11D
B4 HOP
3461
7445
POR
POR
A6 AUDIO
POR FLASH
B5 OTC
HOT
COLD
5463
3463
6463
3462
6462
+13V - LOT
2462
5465
3465
6465
3464
6464
-15V - LOT
2464
+13V-LOT
3635
+8V-S
7613
TL431
3636
3637
3449
+11D
+8Vb
+13V LOT
1495
3498
3499
-12V8
TO PANEL ON CRT NECK
A5 ROTATING CIRCUITRY
1601
125mA
+11V
7680
TDA7052
+Vp
TILT
3686
3684
3685
7681
7682
SWITCH OFF CIRCUIT IN STAND-BY
6080
1620
ROTATION DEFLECTION COIL
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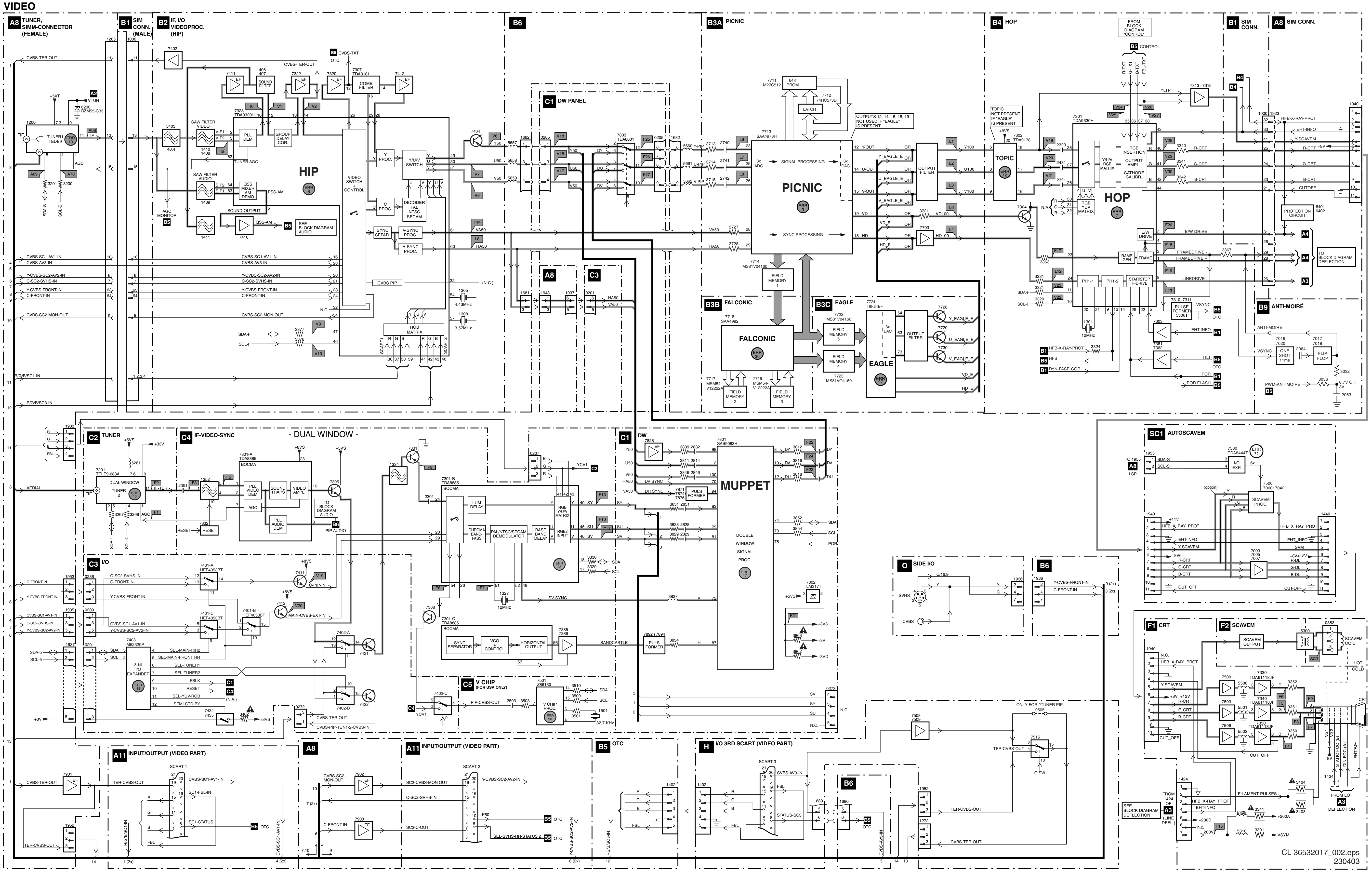
180402

Block Diagram Video


VIDEO
A8 TUNER, SIMM-CONNECTOR (FEMALE)
B1 SIM CONN. (MALE)
B2 IF, I/O VIDEOPROC. (HIP)
B6
B3A PICNIC
B4 HOP
B1 SIM CONN.
A8 SIM CONN.
FROM BLOCK DIAGRAM 'CONROL'
B5 CONTROL
C1 DW PANEL
HIP
PICNIC
TOPIC
HOP
TUNER1 TEDE9
SAW FILTER VIDEO
SAW FILTER AUDIO
PLL DEM
GROUP DELAY COR
QSS MIXER AM DEMO
VIDEO SWITCH + CONTROL
Y/U/V SWITCH
DECODER PAL NTSC SECAM
SYNC SEPAR.
V-SYNC PROC.
H-SYNC PROC.
RGB MATRIX
COMB FILTER
SOUND FILTER
SEE BLOCK DIAGRAM AUDIO
SIGNAL PROCESSING
SYNC PROCESSING
64K PROM
LATCH
OUTPUTS 12, 14, 15, 18, 19 NOT USED IF "EAGLE" IS PRESENT
OUTPUT FILTER
TOPIC NOT PRESENT IF "EAGLE" IS PRESENT
RGB INSERTION
OUTPUT AMPL.
CATHODE CALIBR.
Y/U/V RGB MATRIX
RGB YUV MATRIX
E/W DRIVE
RAMP GEN
FRAME
PH1-1
PH1-2
STARSTOP H-DRIVE
PULSE FORMER 530us
PROTECTION CIRCUIT
TO BLOCK DIAGRAM DEFLECTION
B3B FALCONIC
FALCONIC
FIELD MEMORY
B3C EAGLE
EAGLE
B9 ANTI-MOIRÉ
ONE SHOT 11ms
FLIP FLOP
PWM-ANTIMOIRÉ
C2 TUNER
DUAL WINDOW TUNER 2
C4 IF-VIDEO-SYNC
- DUAL WINDOW -
BOCMA
PLL VIDEO DEM
SOUND TRAPS
VIDEO AMPL.
AGC
PLL AUDIO DEM
TO BLOCK DIAGRAM AUDIO
B6 PIP AUDIO
LUM DELAY
CHROMA BAND-PASS
PAL/NTSC/SECAM DEMODULATOR
BASE BAND DELAY
RGB Y/U/V MATRIX
RGB2 INPUT
SYNC SEPARATOR
VCO + CONTROL
HORIZONTAL OUTPUT
C1 DW
MUPPET
DOUBLE WINDOW SIGNAL PROC.
PULS FORMER
C3 I/O
8-bit I/O EXPANDER
C5 V CHIP (FOR USA ONLY)
V CHIP PROC.
SC1 AUTOSCAVEM
SCAVEM PROC.
I/O EXP.
O SIDE I/O
SVHS
CVBS
B6
F1 CRT
F2 SCAVEM
SCAVEM OUTPUT
SCAVEM COIL
A11 INPUT/OUTPUT (VIDEO PART)
SCART 1
A8
A11 INPUT/OUTPUT (VIDEO PART)
SCART 2
B5 OTC
H I/O 3RD SCART (VIDEO PART)
SCART 3
B6
ONLY FOR 2TUNER PIP
SEE BLOCK DIAGRAM DEFLECTION
FILAMENT PULSES
FROM LOT
A3 DEFLECTION
CRT

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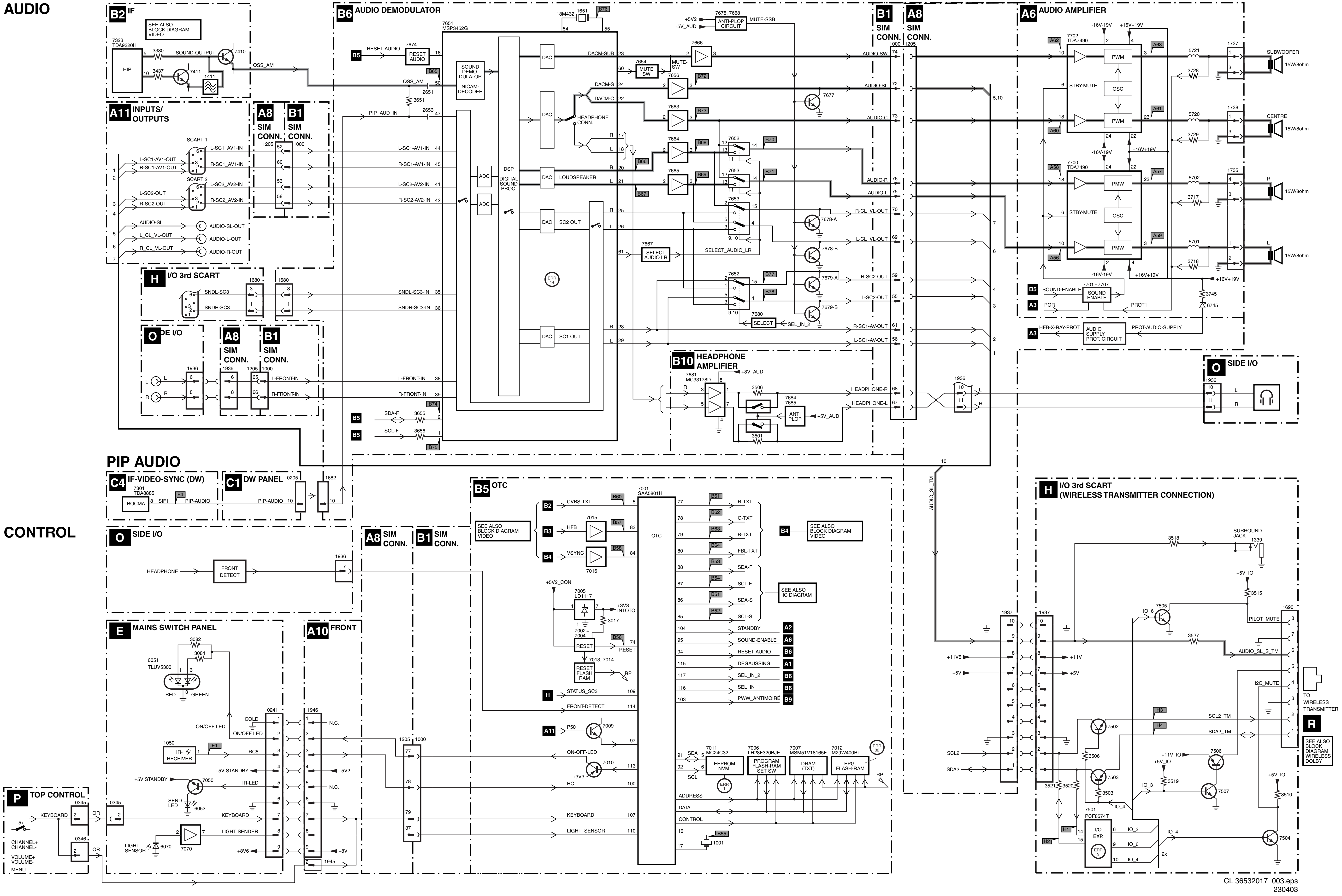
Block Diagram Audio 1 (Exclusive Wireless Audio Details)


AUDIO
PIP AUDIO
CONTROL
B2 IF
SEE ALSO BLOCK DIAGRAM VIDEO
7323 TDA9320H
HIP
SOUND-OUTPUT
QSS_AM
B6 AUDIO DEMODULATOR
7651 MSP3452G
RESET AUDIO
SOUND DEMO-DULATOR
NICAM-DECODER
DSP DIGITAL SOUND PROC.
ADC
DAC
DACM-SUB
DACM-S
DACM-C
HEADPHONE CONN.
LOUDSPEAKER
SC2 OUT
SC1 OUT
PIP_AUD_IN
ANTI-PLOP CIRCUIT
MUTE-SSB
MUTE-SW
SELECT AUDIO LR
SELECT_AUDIO_LR
SELECT
SEL_IN_2
A11 INPUTS/ OUTPUTS
SCART 1
SCART 2
L-SC1_AV1-IN
R-SC1_AV1-IN
L-SC2_AV2-IN
R-SC2_AV2-IN
L-SC1-AV1-OUT
R-SC1-AV1-OUT
L-SC2-OUT
R-SC2-OUT
AUDIO-SL
L_CL_VL-OUT
R_CL_VL-OUT
AUDIO-SL-OUT
AUDIO-L-OUT
AUDIO-R-OUT
A8 SIM CONN.
B1 SIM CONN.
H I/O 3rd SCART
SNDL-SC3
SNDR-SC3
SNDL-SC3-IN
SNDR-SC3-IN
O SIDE I/O
L-FRONT-IN
R-FRONT-IN
SDA-F
SCL-F
AUDIO-SW
AUDIO-SL
AUDIO-C
AUDIO-R
AUDIO-L
R-CL_VL-OUT
L-CL_VL-OUT
R-SC2-OUT
L-SC2-OUT
R-SC1-AV-OUT
L-SC1-AV-OUT
HEADPHONE-R
HEADPHONE-L
A6 AUDIO AMPLIFIER
7702 TDA7490
7700 TDA7490
PWM
PMW
OSC
STBY-MUTE
SUBWOOFER
CENTRE
15W/8ohm
-16V-19V
+16V+19V
SOUND-ENABLE
7701+7707 SOUND ENABLE
POR
PROT1
HFB-X-RAY-PROT
AUDIO SUPPLY PROT. CIRCUIT
PROT-AUDIO-SUPPLY
B10 HEADPHONE AMPLIFIER
7681 MC33178D
+8V_AUD
ANTI PLOP
+5V_AUD
C4 IF-VIDEO-SYNC (DW)
7301 TDA8885
BOCMA
SIF1
PIP-AUDIO
C1 DW PANEL
AUDIO_SL_TM
B5 OTC
7001 SAA5801H
OTC
SEE ALSO BLOCK DIAGRAM VIDEO
CVBS-TXT
HFB
VSYNC
R-TXT
G-TXT
B-TXT
FBL-TXT
SDA-F
SCL-F
SDA-S
SCL-S
SEE ALSO IIC DIAGRAM
STANDBY
SOUND-ENABLE
RESET AUDIO
DEGAUSSING
SEL_IN_2
SEL_IN_1
PWW_ANTIMOIRÉ
+5V2_CON
7005 LD1117
+3V3 INTOTO
RESET
RESET FLASH RAM
STATUS_SC3
FRONT-DETECT
P50
ON-OFF-LED
RC
KEYBOARD
LIGHT_SENSOR
7011 MC24C32 EEPROM NVM.
7006 LH28F320BJE PROGRAM FLASH-RAM SET SW
7007 MSM51V18165F DRAM (TXT)
7012 M29W400BT EPG-FLASH-RAM
ADDRESS
DATA
CONTROL
O SIDE I/O
HEADPHONE
FRONT DETECT
A8 SIM CONN.
B1 SIM CONN.
E MAINS SWITCH PANEL
6051 TLUV5300
RED
GREEN
ON/OFF LED
COLD
1050 IR-RECEIVER
RC5
+5V STANDBY
IR-LED
SEND LED
KEYBOARD
LIGHT SENDER
LIGHT SENSOR
+8V6
A10 FRONT
N.C.
+5V2
+8V
P TOP CONTROL
CHANNEL+ CHANNEL- VOLUME+ VOLUME- MENU
H I/O 3rd SCART (WIRELESS TRANSMITTER CONNECTION)
SURROUND JACK
+5V_IO
PILOT_MUTE
AUDIO_SL_S_TM
I2C_MUTE
SCL2_TM
SDA2_TM
+11V
+5V
SCL2
SDA2
7501 PCF8574T I/O EXP.
IO_3
IO_4
IO_6
TO WIRELESS TRANSMITTER
R SEE ALSO BLOCK DIAGRAM WIRELESS DOLBY

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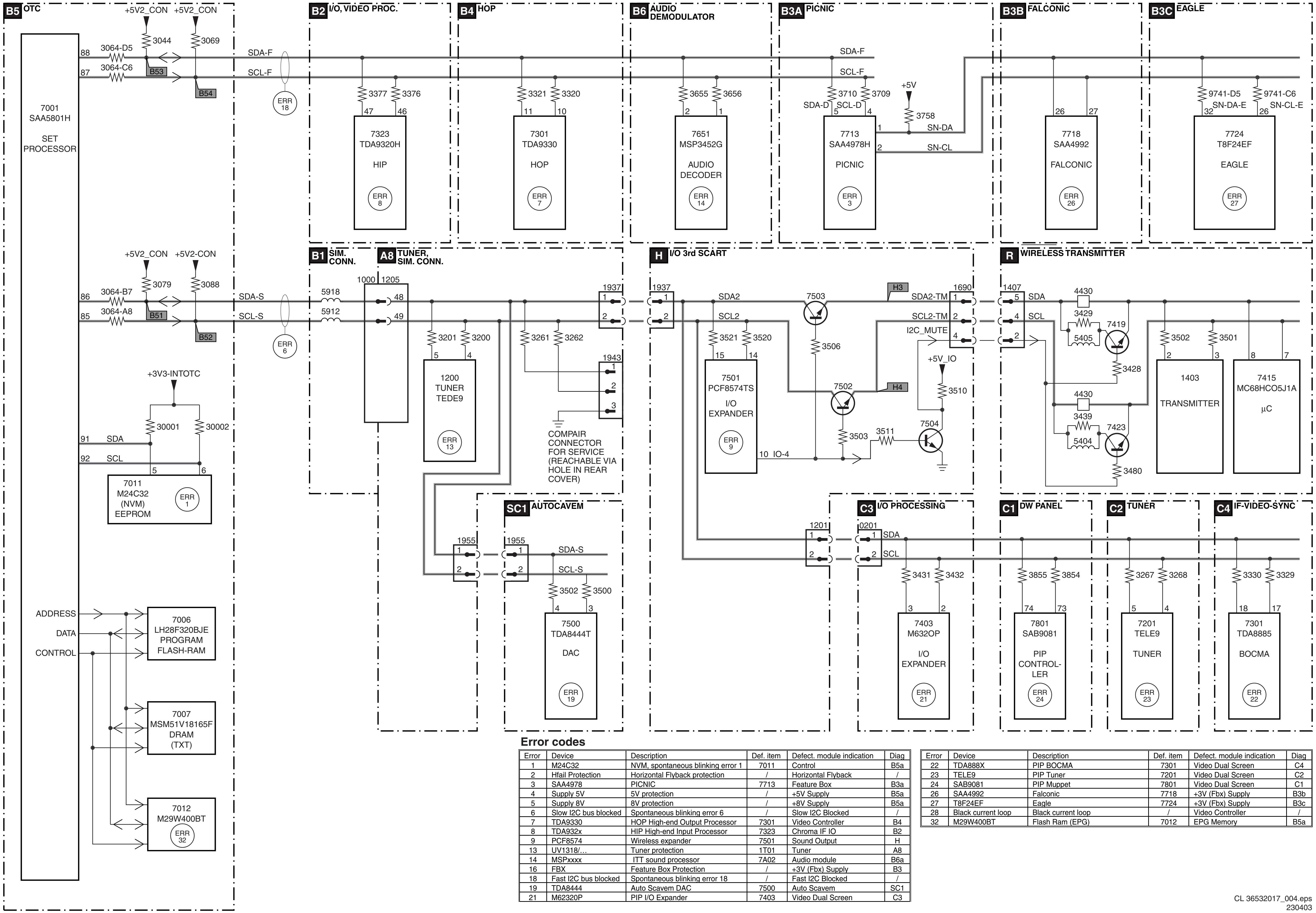
230403

I2C IC's overview

IIC


B5 OTC
+5V2_CON
+5V2_CON
3044
3069
88
3064-D5
87
3064-C6
B53
B54
SDA-F
SCL-F
ERR 18
7001
SAA5801H
SET PROCESSOR
+5V2_CON
+5V2-CON
3079
3088
86
3064-B7
85
3064-A8
B51
B52
SDA-S
SCL-S
ERR 6
+3V3-INTOTC
30001
30002
91 SDA
92 SCL
5
6
7011
M24C32
(NVM)
EEPROM
ERR 1
ADDRESS
DATA
CONTROL
7006
LH28F320BJE
PROGRAM
FLASH-RAM
7007
MSM51V18165F
DRAM
(TXT)
7012
M29W400BT
ERR 32
B2 I/O, VIDEO PROC.
3377
3376
47
46
7323
TDA9320H
HIP
ERR 8
B4 HOP
3321
3320
11
10
7301
TDA9330
HOP
ERR 7
B6 AUDIO DEMODULATOR
3655
3656
2
1
7651
MSP3452G
AUDIO DECODER
ERR 14
B3A PICNIC
SDA-F
SCL-F
3710
3709
+5V
SDA-D
SCL-D
5
4
3758
1 SN-DA
2 SN-CL
7713
SAA4978H
PICNIC
ERR 3
B3B FALCONIC
26
27
7718
SAA4992
FALCONIC
ERR 26
B3C EAGLE
9741-D5
9741-C6
SN-DA-E
SN-CL-E
32
26
7724
T8F24EF
EAGLE
ERR 27
B1 SIM. CONN.
A8 TUNER, SIM. CONN.
1000
1205
5918
5912
48
49
3201
3200
5
4
1200
TUNER
TEDE9
ERR 13
3261
3262
1937
1
2
1943
1
2
3
COMPAIR CONNECTOR FOR SERVICE (REACHABLE VIA HOLE IN REAR COVER)
H I/O 3rd SCART
1937
1
2
SDA2
SCL2
3521
3520
15
14
7501
PCF8574TS
I/O
EXPANDER
ERR 9
10 IO-4
7503
3506
7502
H4
3503
3511
7504
+5V_IO
3510
H3
SDA2-TM
SCL2-TM
I2C_MUTE
1690
1
2
4
R WIRELESS TRANSMITTER
1407
5 SDA
4 SCL
2
4430
3429
5405
7419
3428
4430
3439
5404
7423
3480
3502
3501
2
3
8
7
1403
TRANSMITTER
7415
MC68HCO5J1A
µC
SC1 AUTOCAVEM
1955
1
2
1955
1
2
SDA-S
SCL-S
3502
3500
4
3
7500
TDA8444T
DAC
ERR 19
C3 I/O PROCESSING
1201
1
2
0201
1 SDA
2 SCL
3431
3432
3
2
7403
M632OP
I/O
EXPANDER
ERR 21
C1 DW PANEL
3855
3854
74
73
7801
SAB9081
PIP
CONTROL-LER
ERR 24
C2 TUNER
3267
3268
5
4
7201
TELE9
TUNER
ERR 23
C4 IF-VIDEO-SYNC
3330
3329
18
17
7301
TDA8885
BOCMA
ERR 22

Error codes

Error	Device	Description	Def. item	Defect. module indication	Diag
1	M24C32	NVM, spontaneous blinking error 1	7011	Control	B5a
2	Hfail Protection	Horizontal Flyback protection	/	Horizontal Flyback	/
3	SAA4978	PICNIC	7713	Feature Box	B3a
4	Supply 5V	5V protection	/	+5V Supply	B5a
5	Supply 8V	8V protection	/	+8V Supply	B5a
6	Slow I2C bus blocked	Spontaneous blinking error 6	/	Slow I2C Blocked	/
7	TDA9330	HOP High-end Output Processor	7301	Video Controller	B4
8	TDA932x	HIP High-end Input Processor	7323	Chroma IF IO	B2
9	PCF8574	Wireless expander	7501	Sound Output	H
13	UV1318/…	Tuner protection	1T01	Tuner	A8
14	MSPxxxx	ITT sound processor	7A02	Audio module	B6a
16	FBX	Feature Box Protection	/	+3V (Fbx) Supply	B3
18	Fast I2C bus blocked	Spontaneous blinking error 18	/	Fast I2C Blocked	/
19	TDA8444	Auto Scavem DAC	7500	Auto Scavem	SC1
21	M62320P	PIP I/O Expander	7403	Video Dual Screen	C3
22	TDA888X	PIP BOCMA	7301	Video Dual Screen	C4
23	TELE9	PIP Tuner	7201	Video Dual Screen	C2
24	SAB9081	PIP Muppet	7801	Video Dual Screen	C1
26	SAA4992	Falconic	7718	+3V (Fbx) Supply	B3b
27	T8F24EF	Eagle	7724	+3V (Fbx) Supply	B3c
28	Black current loop	Black current loop	/	Video Controller	/
32	M29W400BT	Flash Ram (EPG)	7012	EPG Memory	B5a

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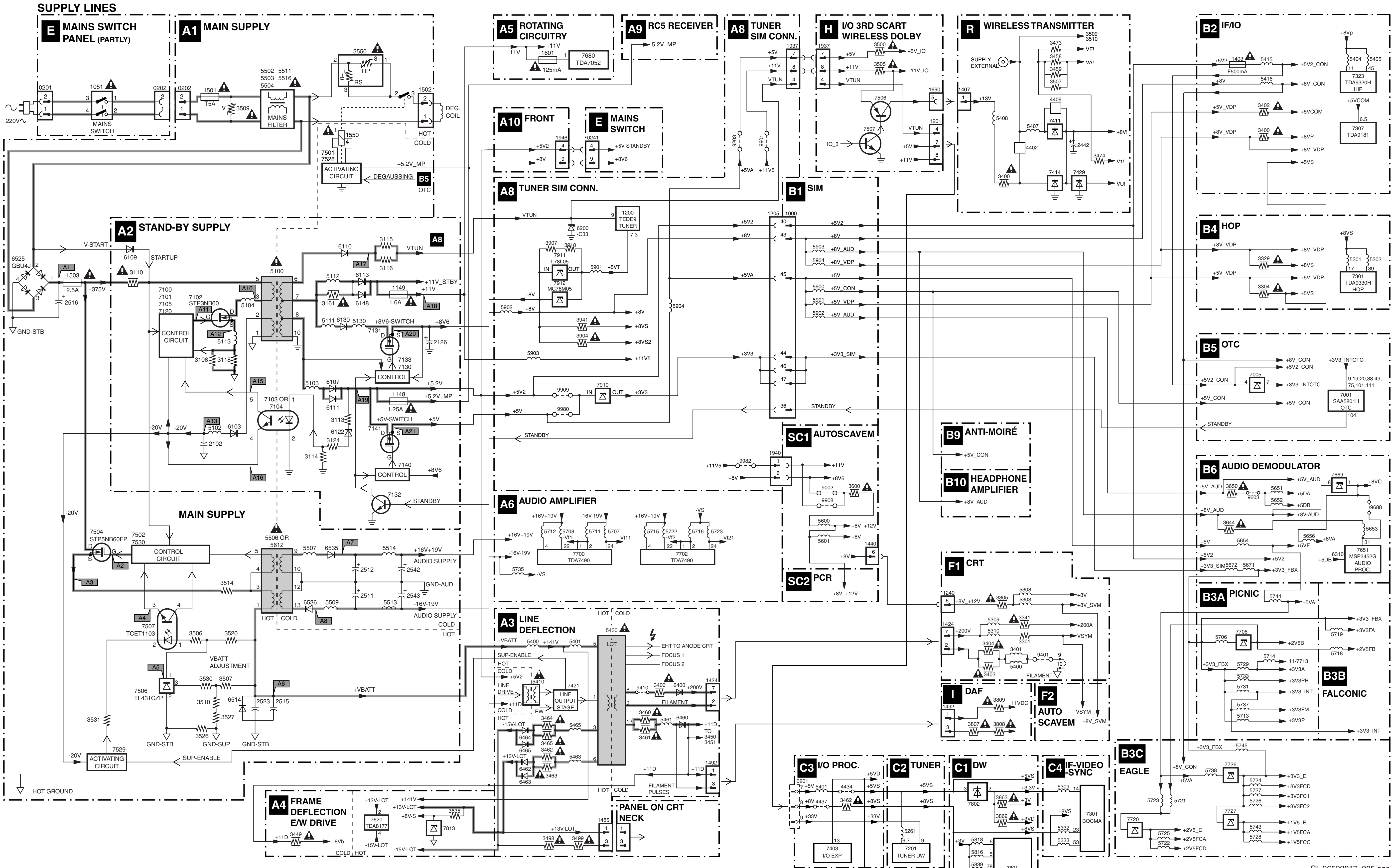
Supply Lines Overview


SUPPLY LINES
E MAINS SWITCH PANEL (PARTLY)
A1 MAIN SUPPLY
A5 ROTATING CIRCUITRY
A9 RC5 RECEIVER
A8 TUNER SIM CONN.
H I/O 3RD SCART WIRELESS DOLBY
R WIRELESS TRANSMITTER
B2 IF/IO
A10 FRONT
E MAINS SWITCH
A8 TUNER SIM CONN.
B1 SIM
A2 STAND-BY SUPPLY
B4 HOP
B5 OTC
SC1 AUTOSCAVEM
B9 ANTI-MOIRÉ
B10 HEADPHONE AMPLIFIER
B6 AUDIO DEMODULATOR
A6 AUDIO AMPLIFIER
MAIN SUPPLY
SC2 PCR
F1 CRT
B3A PICNIC
B3B FALCONIC
A3 LINE DEFLECTION
I DAF
F2 AUTO SCAVEM
B3C EAGLE
A4 FRAME DEFLECTION E/W DRIVE
PANEL ON CRT NECK
C3 I/O PROC.
C2 TUNER
C1 DW
C4 IF-VIDEO -SYNC
C5 V CHIP
220V~
MAINS SWITCH
MAINS FILTER
DEG. COIL
HOT
COLD
ACTIVATING CIRCUIT
DEGAUSSING
+5.2V_MP
GND-STB
V-START
STARTUP
CONTROL CIRCUIT
+375V
VTUN
+11V_STBY
+11V
+8V6-SWITCH
+8V6
CONTROL
+5.2V
+5.2V_MP
+5V-SWITCH
+5V
STANDBY
-20V
CONTROL CIRCUIT
+16V+19V
AUDIO SUPPLY
GND-AUD
-16V-19V
VBATT ADJUSTMENT
+VBATT
GND-SUP
SUP-ENABLE
HOT GROUND
EHT TO ANODE CRT
FOCUS 1
FOCUS 2
FILAMENT
LINE OUTPUT STAGE
+141V
+13V-LOT
-15V-LOT
+8V-S
+11D
FILAMENT PULSES
+5V2
+8V
+5VA
+3V3
+3V3_SIM
+5V_CON
+8V_CON
+5V2_CON
+5VCOM
+8VP
+8V_VDP
+5VS
+8V_AUD
+5V_VDP
+5V_AUD
+8VS2
+11V5
+8V_AUD
+5DA
+5DB
+8VA
+5VF
+3V3_FBX
+3V3_INTOTC
+8V_SVM
+200A
VSYM
+200V
+3V3_E
+3V3FCD
+3V3FC1
+3V3FC2
+1V5_E
+1V5FCA
+1V5FCC
+2V5_E
+2V5FCA
+2V5FCD
+3V3_INT
+3V3FA
+3V3_FBX
+2V5B
+2V5FB
+3V3A
+3V3PR
+3V3FM
+3V3P
+5VD
+5VS
+8VS
+33V
+3V
+3VD
+8VD
TDA7052
TDA7490
TDA9320H HIP
TDA9181
TDA9330H HOP
SAA5801H OTC
MSP3452G AUDIO PROC.
TDA8177
TEDE9 TUNER
BOCMA
PIP CONTROLLER
I/O EXP
TUNER DW
Z86130 V CHIP
TL431CZP
TCET1103
STP5NB60FP
STP3NB60
L78L05
MC78M05
GBU4J

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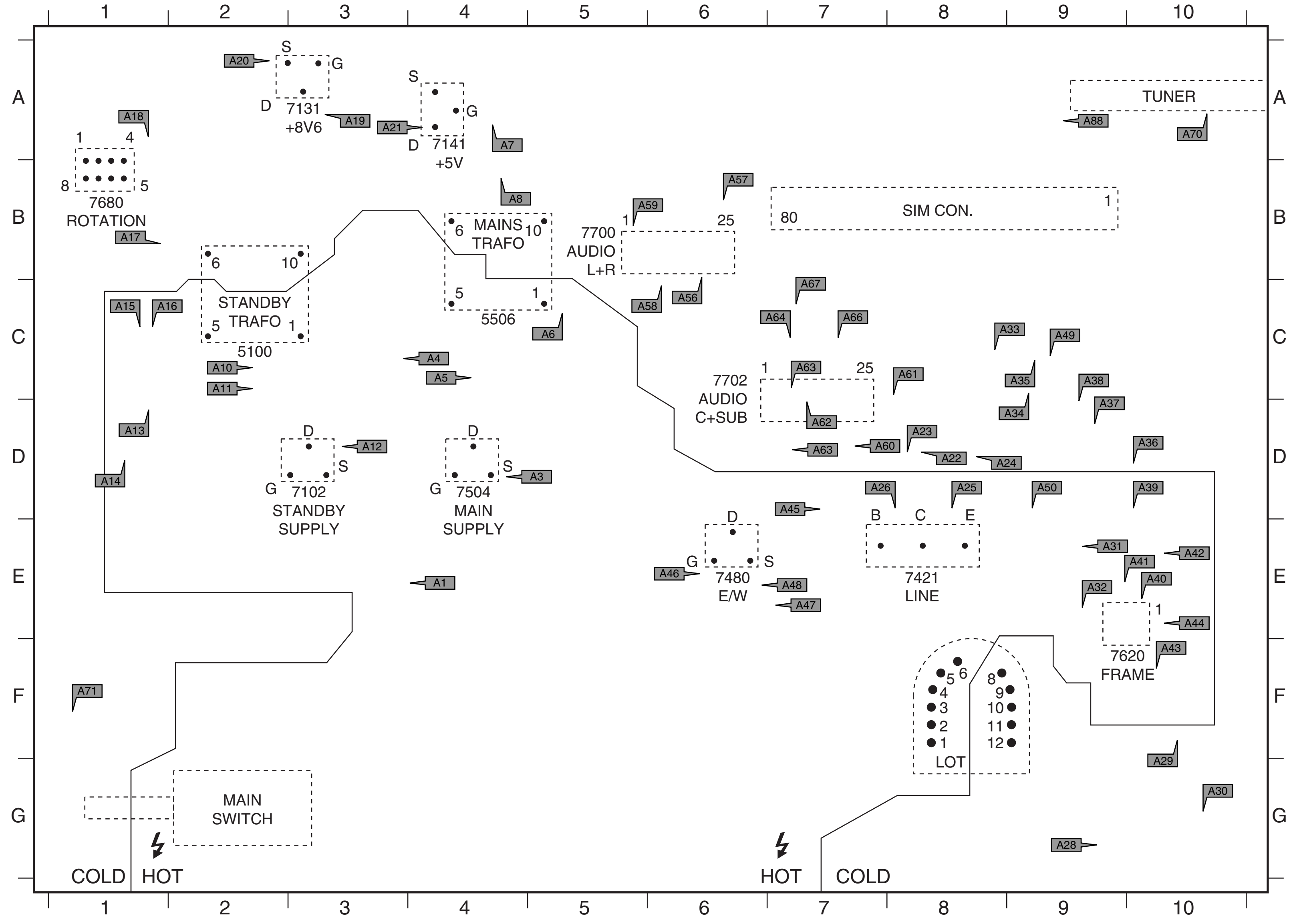
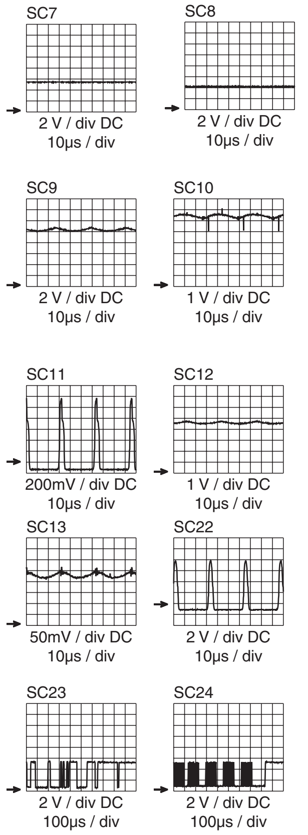
190303

Testpoint Overview LSP and CRT Panel

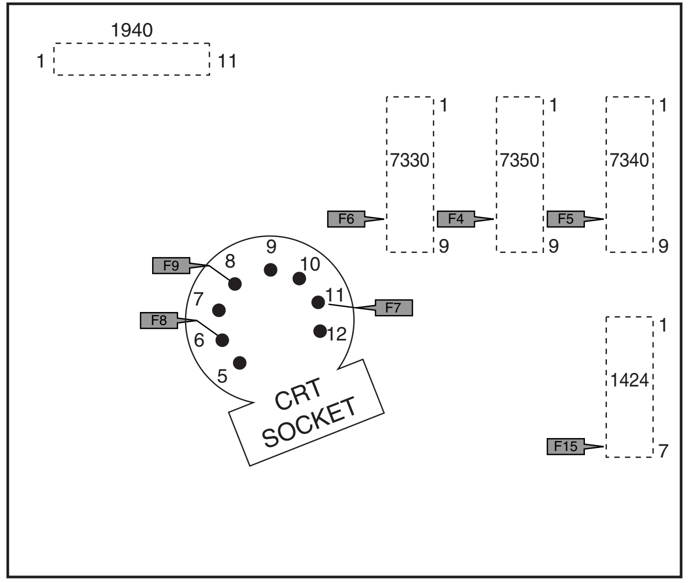
LSP COPPER TRACK SIDE


1 2 3 4 5 6 7 8 9 10
A B C D E F G
7680
ROTATION
7131
+8V6
7141
+5V
TUNER
SIM CON.
80
1
MAINS TRAFO
5506
STANDBY TRAFO
5100
7700
AUDIO
L+R
7702
AUDIO
C+SUB
7102
STANDBY SUPPLY
7504
MAIN SUPPLY
7480
E/W
7421
LINE
7620
FRAME
LOT
MAIN SWITCH
COLD
HOT
HOT
COLD

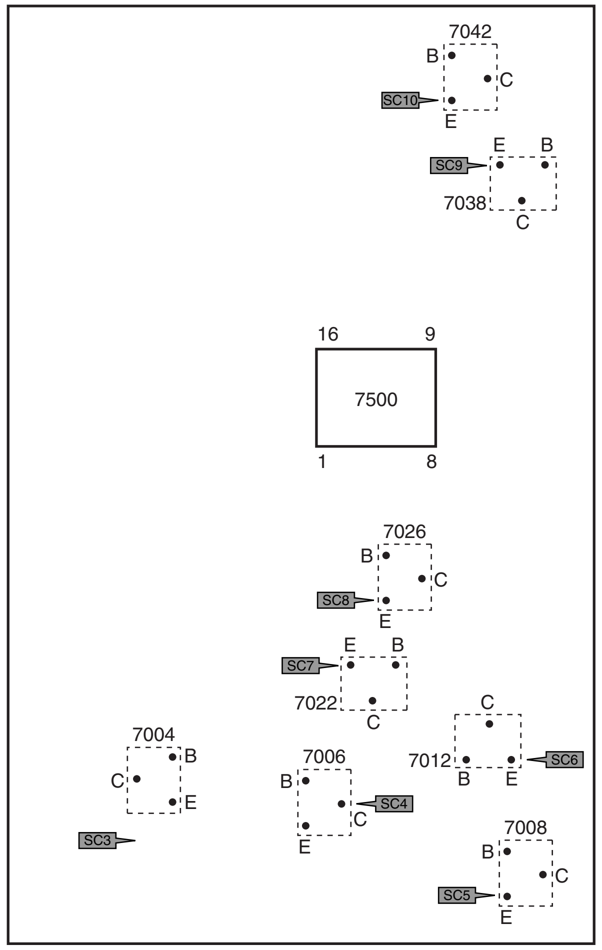
A1	E4	A58	C6
A3	D4	A59	B5
A4	C4	A60	D7
A5	C4	A61	C8
A6	C5	A62	D7
A7	A4	A63	D7
A8	B4	A64	C7
A10	C2	A66	C7
A11	C2	A67	C7
A12	D3	A70	A10
A13	D1	A71	F1
A14	D1	A88	A9
A15	C1		
A16	C1		
A17	B1		
A18	A1		
A19	A3		
A20	A2		
A21	A3		
A22	D8		
A23	D8		
A24	D8		
A25	D8		
A26	D7		
A28	G9		
A29	G10		
A30	G10		
A31	E9		
A32	E9		
A33	C8		
A34	D9		
A35	C9		
A36	D10		
A37	D9		
A38	C9		
A39	D10		
A40	E10		
A41	E10		
A42	E10		
A43	F10		
A44	E10		
A45	D7		
A46	E6		
A47	E7		
A48	E7		
A49	C9		
A50	D9		
A56	C6		
A57	B6		

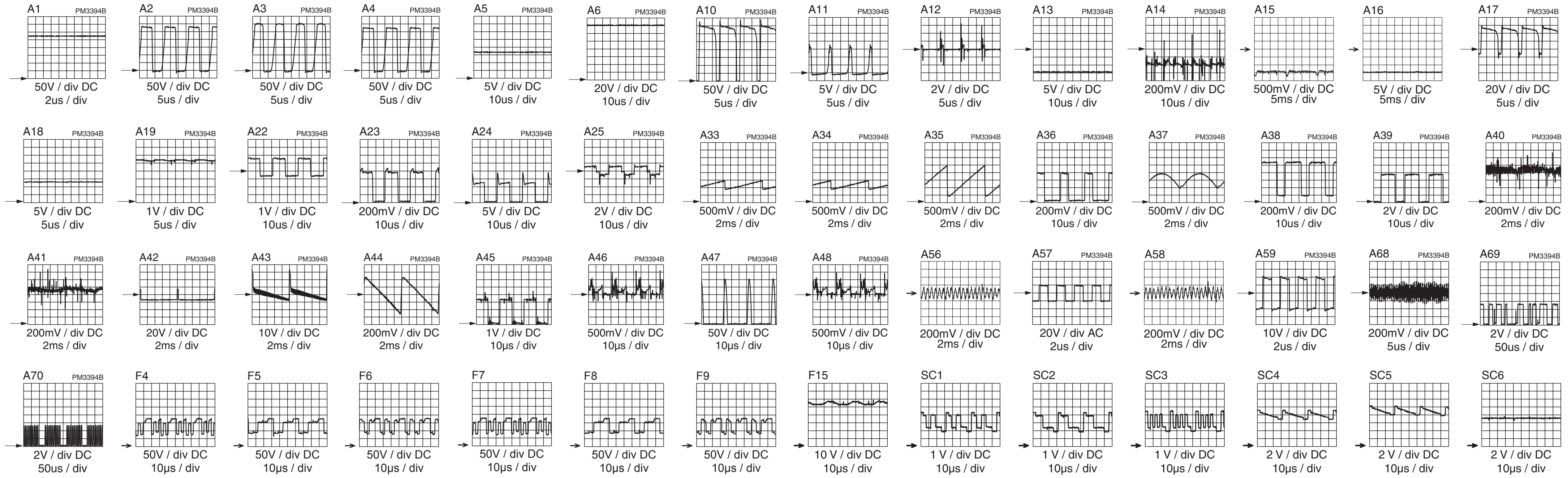


CRT PANEL (COPPER TRACK SIDE)


1940
1
11
7330
7350
7340
1424
F4
F5
F6
F7
F8
F9
F15
CRT SOCKET

AUTO SCAVEM PANEL (COPPER TRACK SIDE)


7042
7038
7500
7026
7022
7004
7006
7012
7008
SC3
SC4
SC5
SC6
SC7
SC8
SC9
SC10
B C E



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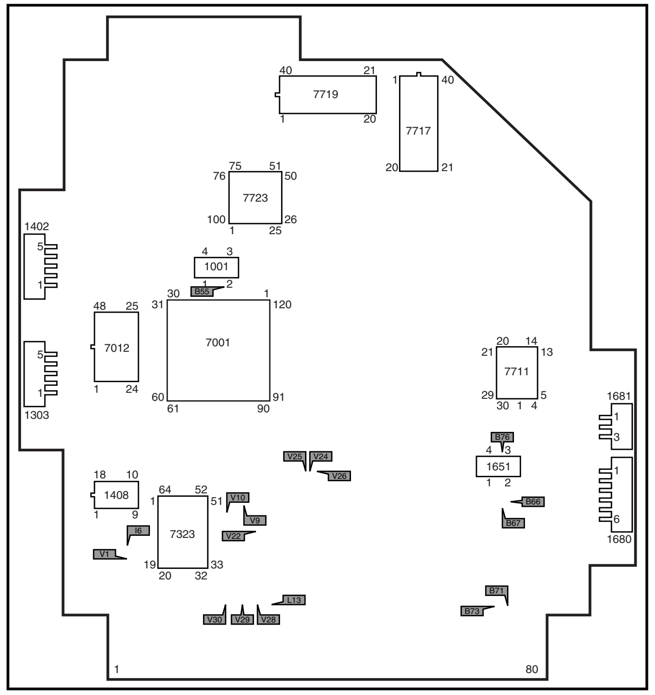
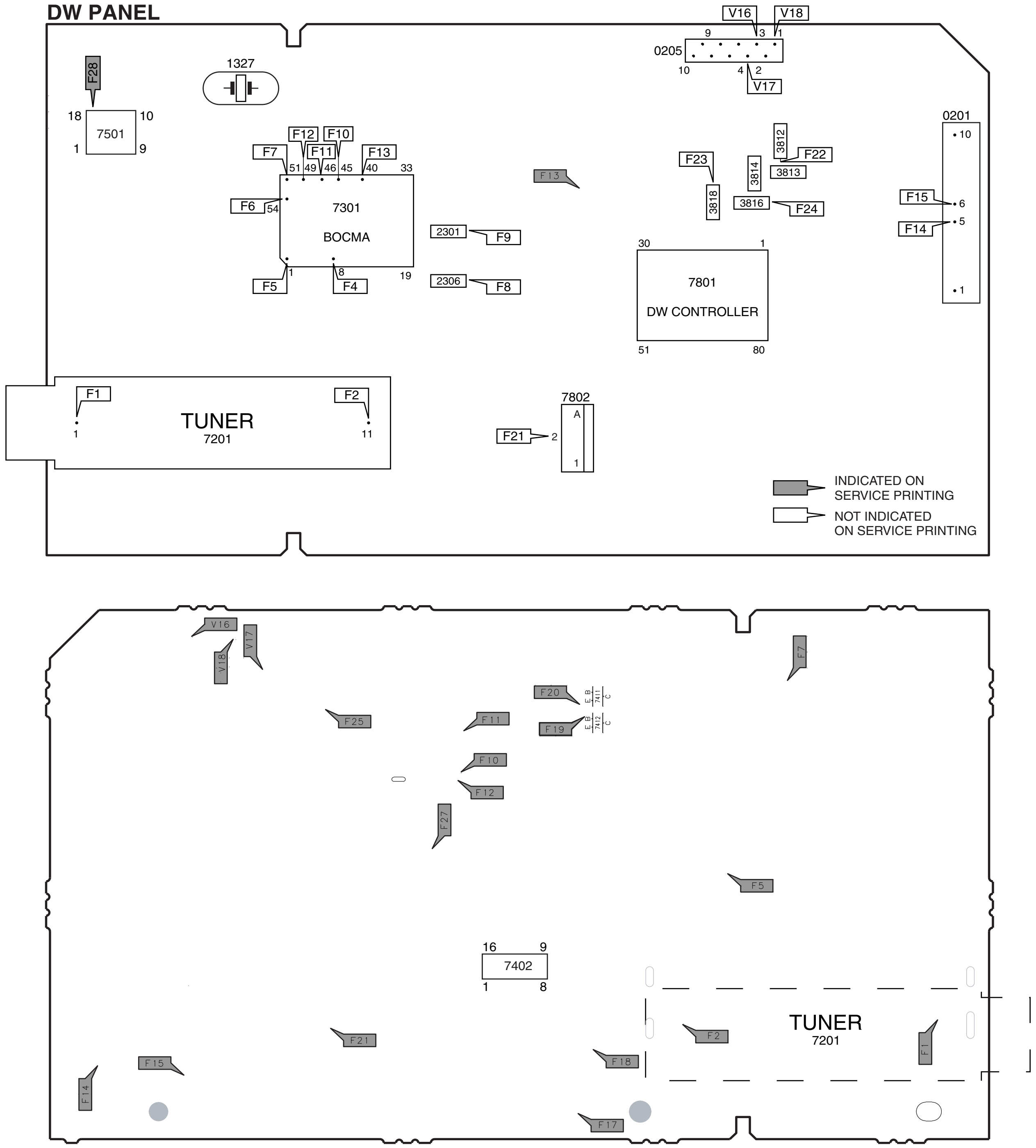
190303

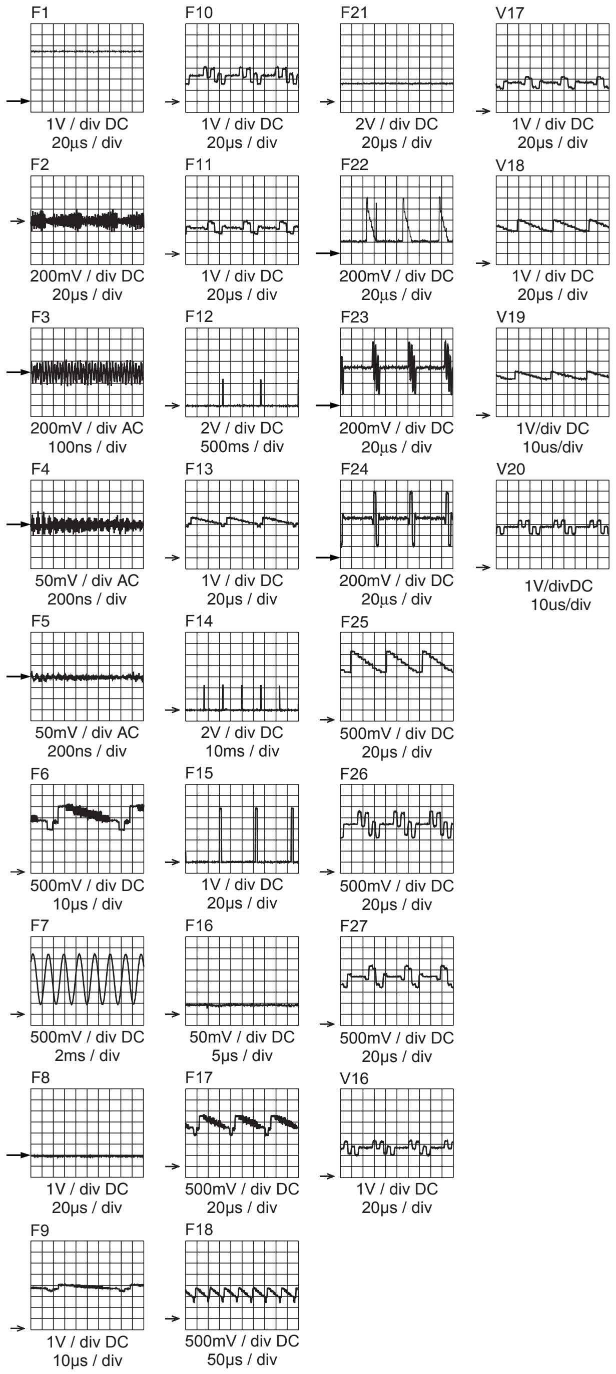
Testpoint Overview Small Signal Board

SSB SIDE A

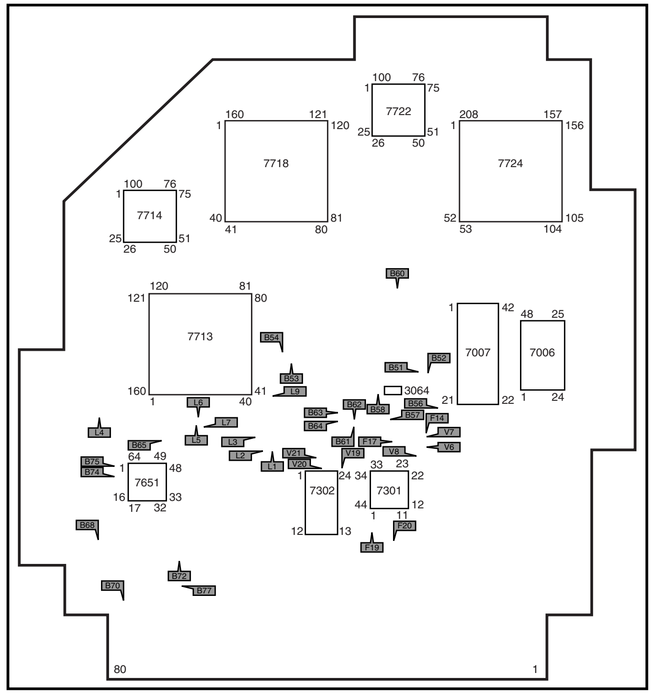

7719
7717
7723
1402
1001
7012
7001
7711
1303
1681
1651
1408
7323
1680

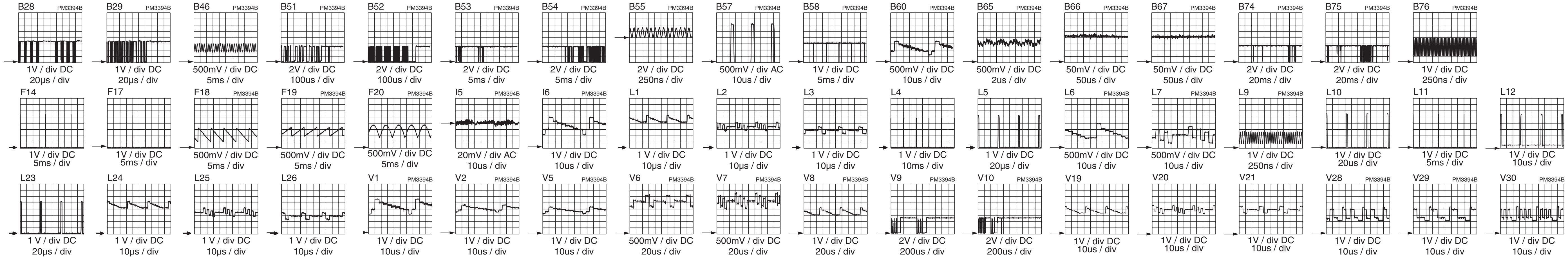
DW PANEL


V16
V18
0205
V17
F28
1327
7501
0201
F12
F10
F7
F11
F13
F23
F22
3812
3814
3818
3813
3816
F24
F15
F14
F6
7301
BOCMA
2301
F9
2306
F8
F5
F4
7801
DW CONTROLLER
F1
F2
TUNER
7201
7802
F21
INDICATED ON SERVICE PRINTING
NOT INDICATED ON SERVICE PRINTING
7402
TUNER
7201



SSB SIDE Z


7722
7718
7724
7714
7713
7007
7006
3064
7651
7302
7301



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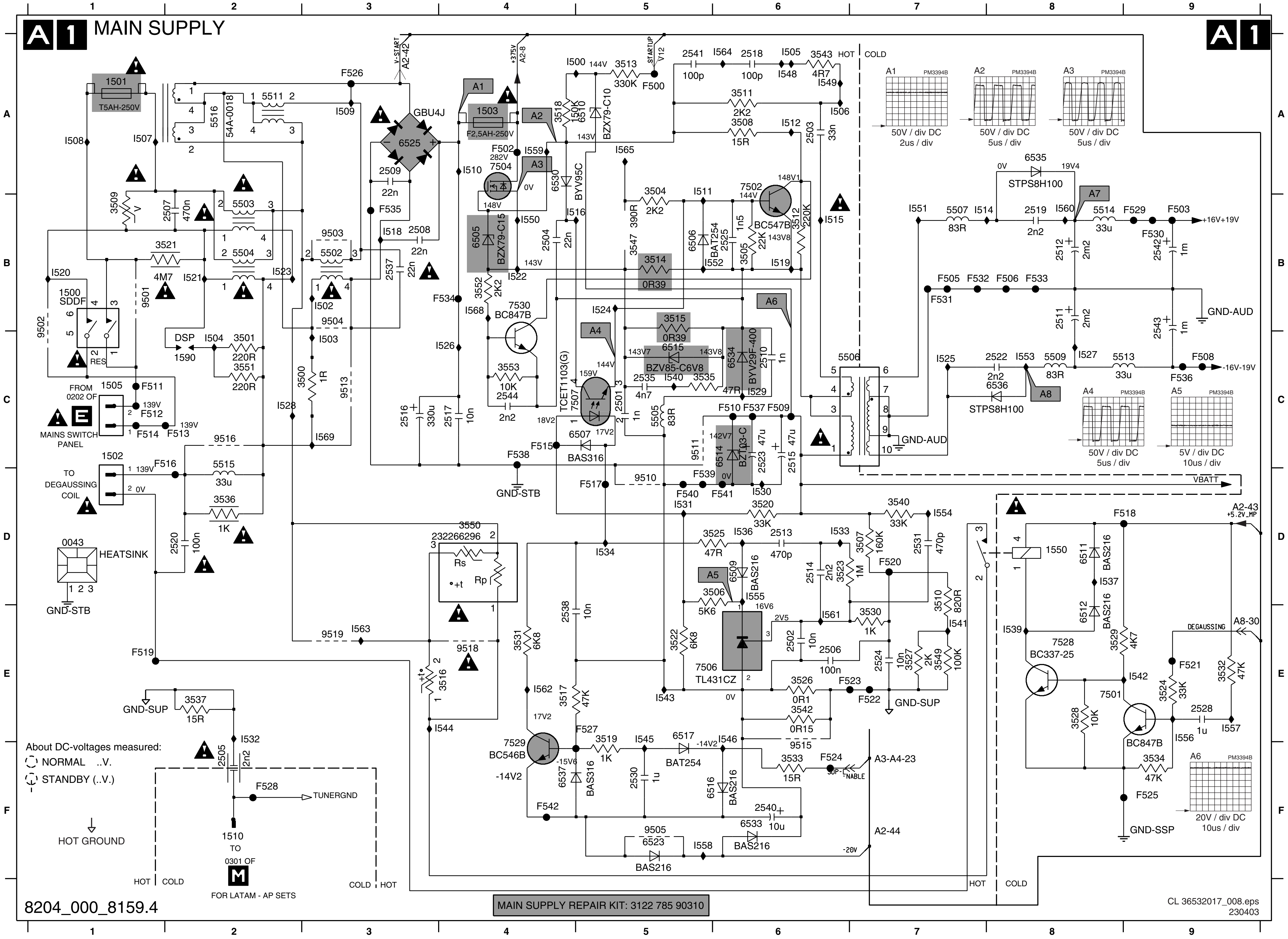
7. Circuit Diagrams and PWB Layouts

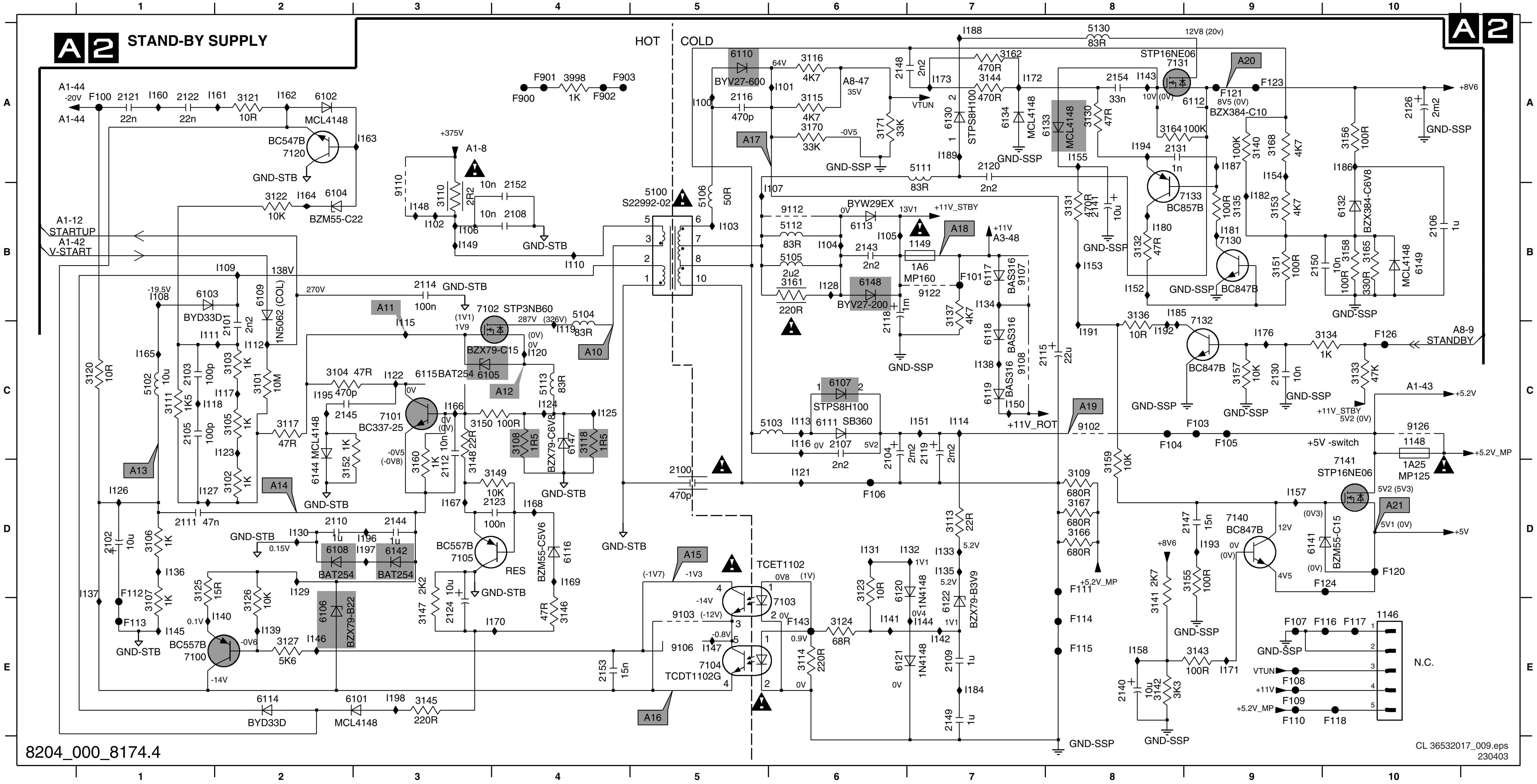
Large Signal Panel: Main Supply


A1 MAIN SUPPLY
1501 T5AH-250V
1503 F2,5AH-250V
GBU4J 6525
1500 SDDF
DSP 1590
FROM 0202 OF 1505
MAINS SWITCH PANEL
TO DEGAUSSING COIL 1502
0043 HEATSINK
GND-STB
7504 7530 BC847B
TCET1103(G) 7507
7502 BC547B
BZV85-C6V8
BYV29F-400
BZX79-C15
BZX79-C10
BYV95C
STPS8H100
5506
GND-AUD
+16V+19V
-16V-19V
VBATT
A2-43 +5.2V_MP
1550
7528 BC337-25
7501 BC847B
DEGAUSSING A8-30
GND-SSP
7506 TL431CZ
7529 BC546B
GND-SUP
3550 232266296 Rs Rp
A3-A4-23 STANDBY-ENABLE
A2-44 -20V
TUNERGND
HOT GROUND
1510 TO 0301 OF
FOR LATAM - AP SETS
HOT COLD
A1 50V / div DC 2us / div
A2 50V / div DC 5us / div
A3 50V / div DC 5us / div
A4 50V / div DC 5us / div
A5 5V / div DC 10us / div
A6 20V / div DC 10us / div
About DC-voltages measured:
NORMAL ..V.
STANDBY (..V.)
MAIN SUPPLY REPAIR KIT: 3122 785 90310
8204_000_8159.4
CL 36532017_008.eps
230403

0043	D1
1500	B1
1501	A1
1502	C1
1503	A4
1505	C1
1510	F2
1550	D8
1590	C2
2501	C5
2502	E6
2503	A6
2504	B4
2505	F2
2506	E6
2507	B2
2508	B3
2509	A3
2510	C6
2511	B8
2512	B8
2513	D6
2514	D6
2515	C6
2516	C3
2517	C4
2518	A6
2519	B8
2520	D2
2522	C8
2523	C6
2524	E7
2525	B6
2528	E9
2530	F5
2531	D7
2535	C5
2537	B3
2538	E4
2540	F6
2541	A5
2542	B9
2543	B9
2544	C4
3500	C3
3501	C2
3504	B5
3505	B6
3506	D6
3507	D7
3508	A6
3509	B1
3510	D7
3511	A6
3512	B6
3513	A5
3514	B5
3515	B5
3516	E4
3517	E4
3518	A4
3519	F5
3520	D6
3521	B2
3522	E5
3523	D6
3524	E9
3525	D6
3526	E6
3527	E7
3528	E8
3529	E8
3530	E7
3531	E4
3532	E9
3533	F6
3534	F9
3535	C5
3536	D2
3537	E2
3540	D7
3542	E6
3543	A6
3547	B5
3549	E7
3550	D4
3551	C2
3552	B4
3553	C4
5502	B3
5503	B2
5504	B2
5505	C5
5506	C6
5507	B7
5509	C8
5511	A2
5513	C9
5514	B8
5515	C2
5516	A2
6505	B4
6506	B5
6507	C5
6509	D6
6510	A5
6511	D8
6512	E8
6514	C6
6515	C5
6516	F6
6517	E5
6523	F5
6525	A3
6530	A4
6533	F6
6534	C6
6535	A8
6536	C8
6537	F4
7501	E8
7502	A6
7504	A4
7506	E5
7507	C5
7528	E8
7529	F4
7530	B4
9501	B1
9502	B1
9503	B3
9504	B3
9505	F5
9510	D5
9511	C5
9513	C3
9515	F6
9516	C2
9518	E4
9519	E3
F500	A5
F502	A4
F503	B9
F505	B7
F506	B8
F508	C9
F509	C6
F510	C6
F511	C1
F512	C1
F513	C2
F514	C1
F515	C4
F516	C2
F517	D5
F518	D9
F519	E1
F520	D7
F521	E9
F522	E7
F523	E7
F524	F6
F525	F9
F526	A3
F527	E5
F528	F2
F529	B9
F530	B9
F531	B7
F532	B7
F533	B8
F534	B4
F535	B3
F536	C9
F537	C6
F538	C4
F539	D5
F540	D5
F541	D6
F542	F4
I500	A5
I502	B3
I503	C3
I504	C2
I505	A6
I506	A6
I507	A1
I508	A1
I509	A3
I510	A4
I511	A5
I512	A6
I514	B7
I515	B6
I516	B5
I518	B3
I519	B6
I520	B1
I521	B2
I522	B4
I523	B2
I524	B5
I525	C7
I526	C4
I527	C8
I528	C2
I529	C6
I530	D6
I531	D5
I532	E2
I533	D6
I534	D5
I536	D6
I537	D8
I539	E8
I540	C5
I541	E7
I542	E9
I543	E5
I544	E4
I545	E5
I546	E6
I548	A6
I549	A6
I550	B4
I551	B7
I552	B6
I553	C8
I554	D7
I555	D6
I556	E9
I557	E9
I558	F5
I559	A4
I560	B8
I561	E6
I562	E4
I563	E3
I564	A6
I565	A5
I568	B4
I569	C3

Large Signal Panel: Stand-by Supply

1146 E10
1148 C10
1149 B7
2100 D5
2101 C2
2102 D1
2103 C1
2104 C6
2105 C1
2106 B10
2107 C6
2108 B4
2109 E7
2110 D2
2111 D1
2112 D3
2114 B3
2115 C8
2116 A5
2118 C6
2119 C7
2120 A7
2121 A1
2122 A1
2123 D4
2124 E3
2126 A10
2130 C9
2131 A8
2140 E8
2141 B8
2143 B6
2144 D3
2145 C2
2147 D9
2148 A6
2149 E7
2150 B9
2152 A4
2153 E4
2154 A8
3101 C2
3102 D2
3103 C2
3104 C2
3105 C2
3106 D1
3107 E1
3108 C4
3109 D8
3110 B3
3111 C1
3113 D7
3114 E6
3115 A6
3116 A6
3117 C2
3118 C4
3120 C1
3121 A2
3122 B2
3123 D6
3124 E6
3125 D1
3126 E2
3127 E2
3130 A8
3131 B8
3132 B8
3133 C10
3134 C10
3135 B9
3136 B8
3137 B7
3140 A9
3141 E8
3142 E8
3143 E9
3144 A7
3145 E3
3146 E4
3147 E3
3148 D3
3149 D4
3150 C3
3151 B9
3152 D2
3153 B9
3155 D9
3156 A10
3157 C9
3158 B10
3159 D8
3160 D3
3161 B6
3162 A7
3164 A8
3165 B10
3166 D8
3167 D8
3168 A9
3170 A6
3171 A6
3998 A4
5100 B5
5102 C1
5103 C6
5104 B4
5105 B6
5106 B5
5111 A7
5112 B6
5113 C4
5130 A8
6101 E3
6102 A2
6103 B1
6104 B2
6105 C3
6106 E2
6107 C6
6108 D2
6109 B2
6110 A5
6111 C6
6112 A9
6113 B6
6114 E2
6115 C3
6116 D4
6117 B7
6118 C7
6119 C7
6120 D6
6121 E6
6122 E7
6130 A7
6132 B10
6133 A7
6134 A7
6141 D9
6142 D3
6144 D2
6147 C4
6148 B6
6149 B10
7100 E1
7101 C3
7102 B3
7103 E6
7104 E5
7105 D3
7120 A2
7130 B9
7131 A8
7132 C9
7133 B9
7140 D9
7141 D10
9102 C8
9103 E5
9106 E5
9107 B7
9108 C7
9110 B3
9112 B6
9122 B7
9126 C10
F100 A1
F101 B7
F103 C9
F104 C8
F105 C9
F106 D6
F107 E9
F108 E9
F109 E9
F110 E9
F111 D8
F112 D1
F113 E1
F114 E8
F115 E8
F116 E10
F117 E10
F118 E10
F120 D10
F121 A9
F123 A9
F124 D10
F126 C10
F143 E6
F900 A4
F901 A4
F902 A4
F903 A4
I100 A5
I101 A6
I102 B3
I103 B5
I104 B6
I105 B6
I106 B3
I107 B6
I108 B1
I109 B2
I110 B4
I111 C1
I112 C2
I113 C6
I114 C7
I115 C3
I116 C6
I117 C2
I118 C1
I119 C4
I120 C4
I121 D6
I122 C3
I123 C2
I124 C4
I125 C4
I126 D1
I127 D1
I128 B6
I129 D2
I130 D2
I131 D6
I132 D7
I133 D7
I134 B7
I135 D7
I136 D1
I137 D1
I138 C7
I139 E2
I140 E2
I141 E6
I142 E7
I143 A8
I144 E7
I145 E1
I146 E2
I147 E5
I148 B3
I149 B3
I150 C7
I151 C7
I152 B8
I153 B8
I154 A9
I155 A8
I157 D9
I158 E8
I160 A1
I161 A2
I162 A2
I163 A3
I164 B2
I165 C1
I166 C3
I167 D3
I168 D4
I169 D4
I170 E4
I171 E9
I172 A7
I173 A7
I176 C9
I180 B8
I181 B9
I182 B9
I184 E7
I185 B8
I186 A10
I187 A9
I188 A7
I189 A7
I191 C8
I192 C8
I193 D9
I194 A8
I195 C2
I196 D3
I197 D3
I198 E3


A2 STAND-BY SUPPLY
HOT
COLD
A2
1 2 3 4 5 6 7 8 9 10
A B C D E
A1-44
-20V
F100
2121 22n
I160
2122 22n
I161
3121 10R
I162
6102 MCL4148
I163
BC547B 7120
GND-STB
3122 10K
I164
6104 BZM55-C22
A1-12 STARTUP
A1-42 V-START
F901 3998 1K F903
F900 F902
+375V
A1-8
9110
3110 2R2
10n 2152
10n 2108
I148
I102
I106
I149
GND-STB
I110
5100 S22992-02
5106 50R
I103
6110 BYV27-600
64V
3116 4K7
3115 4K7
3170 33K
A8-47 35V
-0V5
2116 470p
I100
I101
A17
I107
3171 33K
VTUN
2148 2n2
I173
3162 470R
3144 470R
I172
6130 STPS8H100
6134 MCL4148
6133 MCL4148
I189
GND-SSP
5111 83R
2120 2n2
I188
5130 83R
12V8 (20V)
STP16NE06 7131
A20
2154 33n
I143
10V (0V)
6112
F121 8V5 (0V) BZX384-C10
F123
+8V6
2126 2m2
GND-SSP
3130 47R
I155
3164 100K
I194
2131 1n
7133 BC857B
I187
3140 100K
3168 4K7
I154
3153 4K7
I182
3135 100R
I180
I181 7130
BC847B
3132 47R
3131 470R
2141 10u
I153
I152
3151 100R
3156 100R
I186
6132 BZX384-C6V8
2106 1u
2150 10n
3158 100R
3165 330R
6149 MCL4148
9112
5112 83R
5105 2u2
3161 220R
0V
BYW29EX
6113
13V1
+11V_STBY
I104
2143 2n2
I105
1149 1A6 MP160
A18
+11V A3-48
F101
6117 BAS316
9107
I128
6148 BYV27-200
2118 1m
9122
3137 4K7
I134
6118 BAS316
I138
6119 BAS316
9108
I150
GND-SSP
2115 22u
I191
3136 10R
I192
I185
7132
BC847B
I176
3134 1K
F126
A8-9 STANDBY
3157 10K
2130 10n
3133 47K
A1-43
+5.2V
+11V_STBY 5V2 (0V)
6107 STPS8H100
5103
I113
6111 SB360
I116 0V
2107 2n2
5V2
2104 2m2
2119 2m2
I151
I114
+11V_ROT
A19
9102
F103
F104
F105
+5V -switch
9126
1148 1A25 MP125
+5.2V_MP
7141 STP16NE06
5V2 (5V3)
A21
5V1 (0V)
+5V
3159 10K
I121
F106
2100 470p
3109 680R
3167 680R
3166 680R
3113 22R
5.2V
I133
I135
5.2V
6122 BZX79-B3V9
1V1
I132
I131
3123 10R
6120 1N4148
0V4
I144
I141
3124 68R
F143
I142
2109 1u
I184
2149 1u
6121 1N4148
0V
3114 220R
0.9V
0V
+5.2V_MP
F111
F114
F115
GND-SSP
I157
(0V3)
7140 BC847B
12V
0V (0V)
4V5
6141 BZM55-C15
(0V)
F124
F120
2147 15n
I193
+8V6
3155 100R
3141 2K7
GND-SSP
I158
3143 100R
I171
2140 10u
3142 3K3
F107 F116 F117
1146
GND-SSP
VTUN
+11V
+5.2V_MP
F108
F109
F110
F118
N.C.
1 2 3 4 5
TCET1102
0V8 (1V)
7103
-14V
9103 (-12V)
-0.8V
9106
I147
7104
TCDT1102G
A15
(-1V7) -1V3
A16
2153 15n
GND-STB
2114 100n GND-STB
270V
138V
7102 STP3NB60
(1V1) 1V9
287V (326V)
I119
5104 83R
A10
A11
I115
BZX79-C15
6105
(0V) 0V
I120
A12
6115BAT254
5113 83R
I124
I125
3150 100R
3108 1R5
6147 BZX79-C6V8
3118 1R5
GND-STB
3104 47R
I122
I195 470p
2145
7101 BC337-25
0V
-0V5 (-0V8)
I166
2V (0V)
3160 1K
2112 10n
3148 22R
3149 10K
I167
2123 100n
I168
BC557B 7105
RES
6116 BZM55-C5V6
I169
3146 47R
3147 2K2
2124 10u
GND-STB
I170
-19.5V I108
6103 BYD33D
I109
6109 1N5062 (COL)
I111
2101 2n2
I112
3103 1K
3101 10M
I165
5102 10u
2103 100p
3111 1K5
I117
I118
2105 100p
3105 1K
3117 47R
I123
3102 1K
6144 MCL4148
3152 1K
A13
A14
GND-STB
I126
I127
2111 47n
2110 1u
I196
2144 1u
I130
GND-STB 0.15V
6108 BAT254
I197
6142 BAT254
3106 1K
I136
2102 10u
I137
F112
3107 1K
F113
GND-STB
I145
3125 15R
0.1V
I140
3126 10K
I129
I139
BC557B 7100
-0V6
-14V
3127 5K6
I146
6106 BZX79-B22
3120 10R
6114 BYD33D
6101 MCL4148
I198
3145 220R

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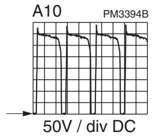
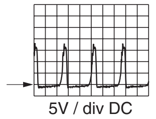
About DC-voltages measured:
NORMAL ..V.
STANDBY (..V.)

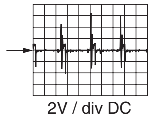
STANDBY SUPPLY REPAIR KIT: 3122 785 90460

A10


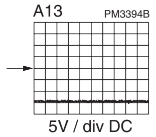
50V / div DC
5us / div

A11


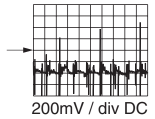
5V / div DC
5us / div

A12


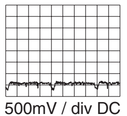
2V / div DC
5us / div

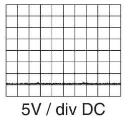
A13


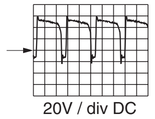
5V / div DC
10us / div

A14


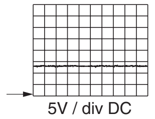
200mV / div DC
10us / div

A15

500mV / div DC
5ms / div

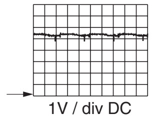
A16

5V / div DC
5ms / div

A17


20V / div DC
5us / div

A18


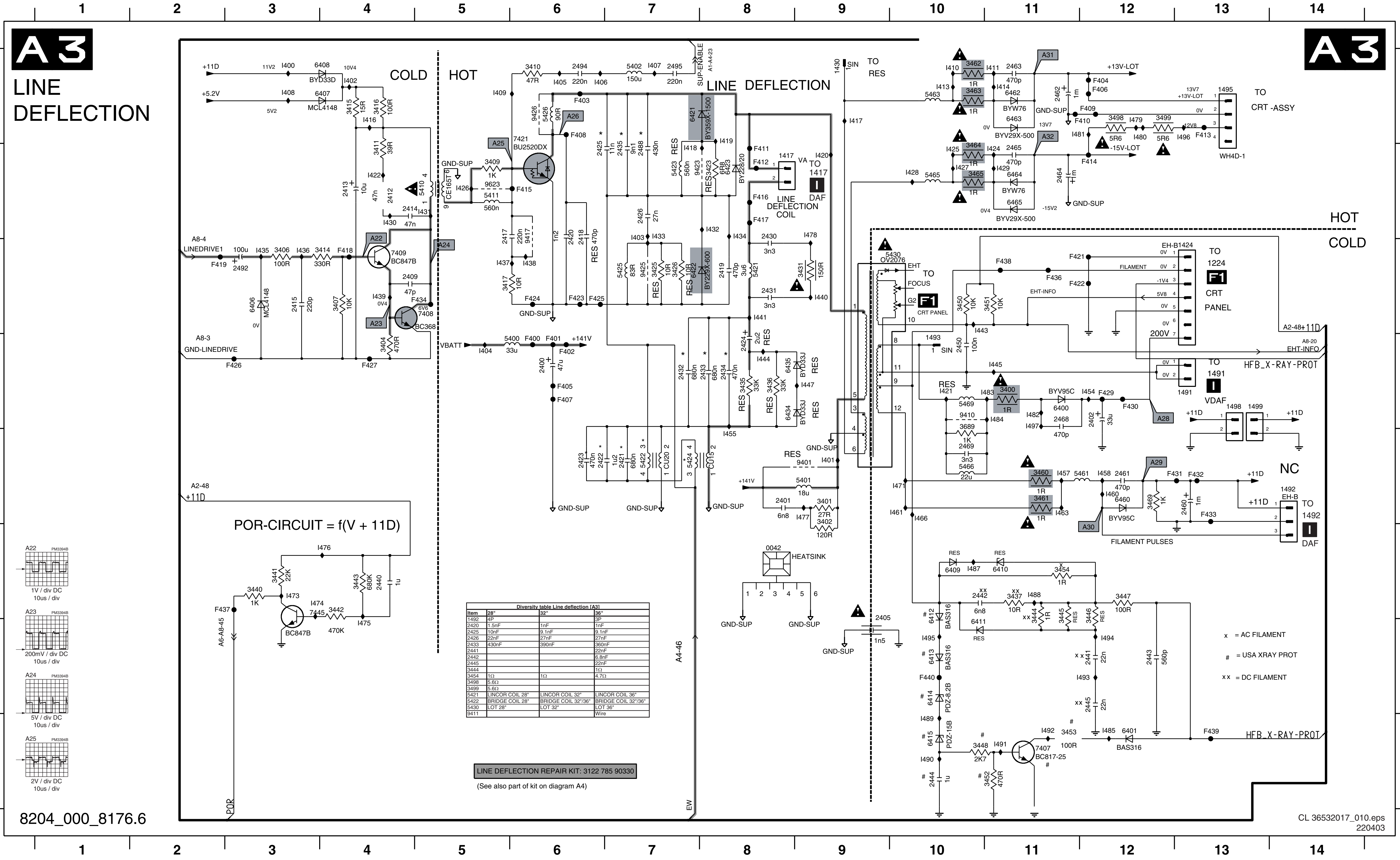
5V / div DC
5us / div

A19


1V / div DC
5us / div

Large Signal Panel: Line Deflection

0042 F8
1417 B8
1424 C13
1430 A9
1491 D13
1492 E14
1493 D10
1495 A13
1498 D13
1499 D13
2400 D6
2401 E8
2402 D12
2405 G9
2409 C4
2412 B4
2413 B4
2414 B4
2415 C3
2417 B5
2418 B6
2419 C8
2420 B6
2421 E7
2422 E6
2423 E6
2424 D8
2425 B6
2426 B7
2430 B8
2431 C8
2432 D7
2433 D8
2434 D8
2435 B7
2440 F4
2441 G12
2442 F10
2443 G12
2444 H10
2445 G12
2450 D10
2460 E13
2461 E12
2462 A11
2463 A11
2464 B11
2465 B11
2468 D11
2469 E10
2488 B7
2492 C3
2494 A6
2495 A7
3400 D11
3401 E9
3402 F9
3404 D4
3406 C3
3407 C4
3409 B5
3410 A6
3411 B4
3414 C4
3415 A4
3416 A4
3417 C5
3423 B8
3425 C7
3426 C7
3431 C9
3435 D8
3436 D8
3437 F11
3440 F3
3441 F3
3442 F4
3443 F4
3444 F11
3445 F11
3446 F12
3447 F12
3448 H10
3450 C10
3451 C11
3452 H11
3453 H11
3454 F11
3460 E11
3461 E11
3462 A10
3463 A10
3464 B10
3465 B10
3469 E12
3498 A12
3499 A12
3689 E10
5400 D6
5401 E9
5402 A7
5410 B5
5411 B5
5421 C8
5422 E7
5423 B7
5424 E7
5425 C7
5426 A6
5430 C10
5461 E12
5463 A10
5465 B10
5466 E10
5469 D10
6400 D11
6401 H12
6406 C3
6407 A4
6408 A4
6409 F10
6410 F11
6411 G10
6412 F10
6413 G10
6414 G10
6415 H10
6421 A7
6422 C7
6423 B8
6434 D8
6435 D8
6460 E12
6462 A11
6463 A11
6464 B11
6465 B11
7407 H11
7408 C5
7409 C4
7421 A6
7445 F3
9401 E9
9410 D10
9417 B6
9423 B7
9425 C7
9426 A6
9623 B5
F400 D6
F401 D6
F402 D6
F403 A6
F404 A12
F405 D6
F406 A12
F407 D6
F408 A6
F409 A12
F410 A12
F411 B8
F412 B8
F413 A13
F414 B12
F415 B6
F416 B8
F417 B8
F418 C4
F419 C2
F421 C11
F422 C11
F423 C6
F424 C6
F425 C6
F426 D3
F427 D4
F429 D12
F430 D12
F431 E13
F432 E13
F433 E13
F434 C5
F436 C11
F437 F2
F438 C11
F439 H13
F440 G10
I400 A3
I401 E9
I402 A4
I403 B7
I404 D5
I405 A6
I406 A6
I407 A7
I408 A3
I409 A5
I410 A10
I411 A11
I413 A10
I414 A11
I416 A4
I417 A9
I418 B7
I419 A8
I420 B9
I421 D10
I422 B4
I424 B11
I425 B10
I426 B5
I427 B10
I428 B10
I429 B11
I430 B4
I431 B5
I432 B8
I433 B7
I434 B8
I435 C3
I436 C3
I437 C5
I438 C6
I439 C4
I440 C9
I441 C8
I443 C10
I444 D8
I445 D11
I447 D9
I454 D12
I455 E8
I457 E11
I458 E12
I460 E12
I461 E10
I463 E11
I466 E10
I471 E10
I473 F3
I474 F3
I475 G4
I476 F4
I477 E9
I478 B9
I479 A12
I480 A12
I481 A11
I482 D11
I483 D11
I484 D11
I485 H12
I487 F10
I488 F11
I489 H10
I490 H10
I491 H11
I492 H11
I493 G12
I494 G12
I495 G10
I496 A13
I497 D11


A3
LINE
DEFLECTION
COLD
HOT
LINE DEFLECTION
+11D
+5.2V
A8-4
LINEDRIVE1
A8-3
GND-LINEDRIVE
BC847B
BC368
BU2520DX
GND-SUP
VBATT
+141V
LINE DEFLECTION COIL
TO 1417 DAF
TO RES
SIN
+13V-LOT
-15V-LOT
TO CRT -ASSY
WH4D-1
HOT
COLD
OV2076
EHT
TO FOCUS
G2
CRT PANEL
EH-B1424
TO 1224
F1
CRT PANEL
EHT-INFO
FILAMENT
200V
A2-48+11D
A8-20 EHT-INFO
HFB_X-RAY-PROT
TO 1491 VDAF
NC
TO 1492 DAF
FILAMENT PULSES
HEATSINK
A2-48
+11D
POR-CIRCUIT = f(V + 11D)
A6-A8-45
A4-46
POR
EW
x = AC FILAMENT
# = USA XRAY PROT
xx = DC FILAMENT
BC817-25
BAS316
PDZ-8.2B
PDZ-15B
A22 PM3394B 1V / div DC 10us / div
A23 PM3394B 200mV / div DC 10us / div
A24 PM3394B 5V / div DC 10us / div
A25 PM3394B 2V / div DC 10us / div

Diversity table Line deflection [A3]			
Item	**28"**	**32"**	**36"**
1492	4P		3P
2420	1.5nF	1nF	1nF
2425	10nF	9.1nF	9.1nF
2426	22nF	27nF	27nF
2433	430nF	390nF	360nF
2441			22nF
2442			6.8nF
2445			22nF
3444			1Ω
3454	1Ω	1Ω	4.7Ω
3498	5.6Ω		
3499	5.6Ω		
5421	LINCOR COIL 28"	LINCOR COIL 32"	LINCOR COIL 36"
5422	BRIDGE COIL 28"	BRIDGE COIL 32"/36"	BRIDGE COIL 32"/36"
5430	LOT 28"	LOT 32"	LOT 36"
9411			Wire

LINE DEFLECTION REPAIR KIT: 3122 785 90330

(See also part of kit on diagram A4)

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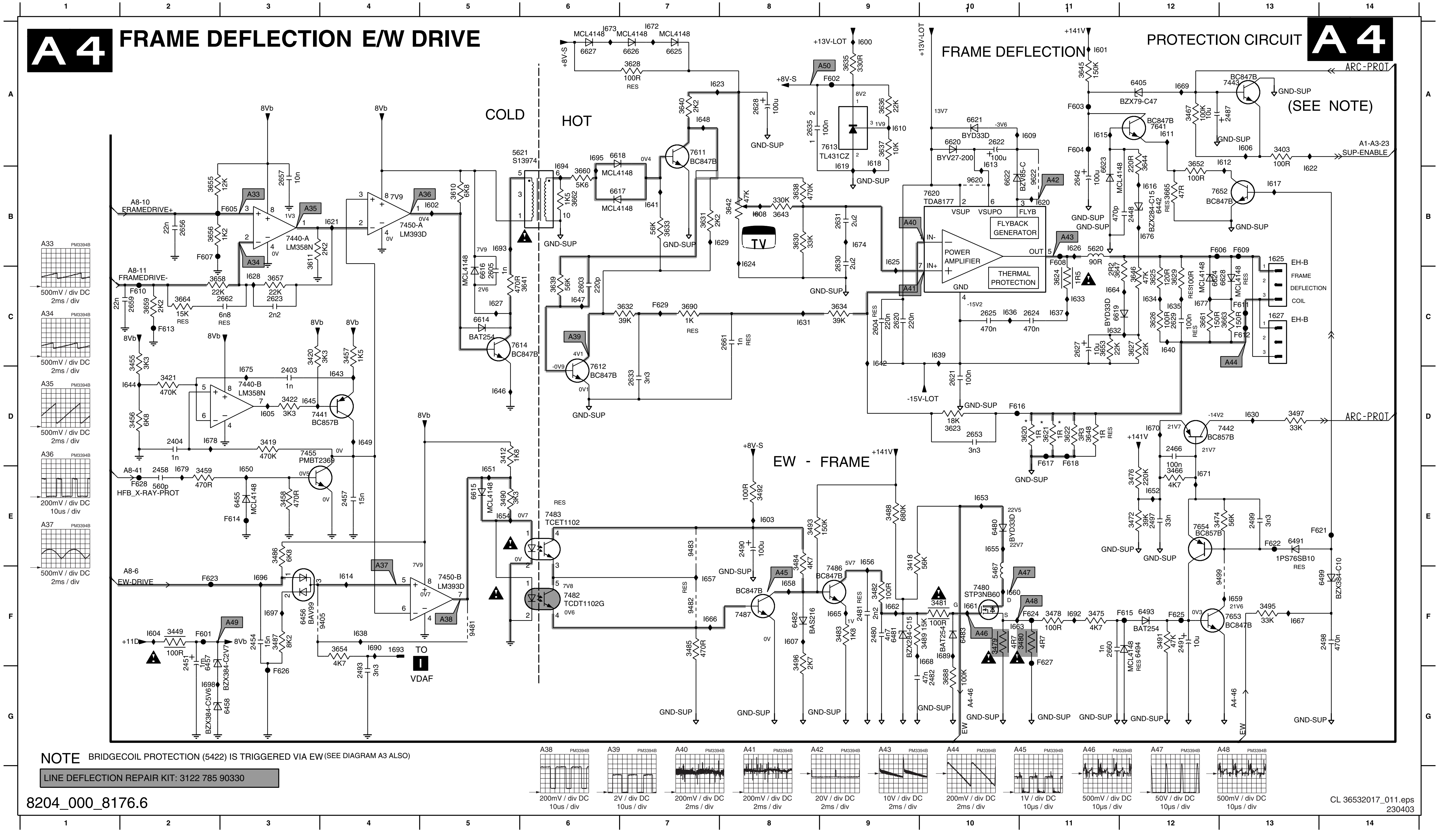
Large Signal Panel: Frame Deflection E/W Drive

2480	F9
2481	F9
2631	B9
2451	F2
2454	F3
2457	E4
2458	E2
2466	D12
2653	D10
2656	B2
2657	B3
2659	C2
2660	F11
1627	C13
1693	F4
2403	D3
2404	D2
2448	B12
3478	F11
3482	F9
3483	F9
3484	E8
3485	F7
3486	E3
2482	G10
2487	A13
2490	E8
2491	F12
2493	G4
2497	E12
1625	B13
2627	C11
2628	A8
2629	C12
2630	B9
3629	C12
2633	D7
2635	A8
2642	B11
3633	B7
3634	C9
3635	A9
3636	A9
2661	C8
2662	C3
3403	A13
3412	D5
3418	E9
3419	D3
3472	E12
3474	E13
3475	F11
3476	E12
3661	C12
3479	F10
3480	F11
3481	F10
3665	B12
3688	G10
3690	C7
5467	F10
3487	F3
3488	E9
3489	F10
3490	E5
3491	F12
3492	E8
2498	F14
2499	E13
2603	C6
2604	C9
2605	C5
2620	C9
2621	D10
2622	A10
2623	C3
2624	C11
2625	C10
3625	C12
3626	C12
3627	C12
3628	A7
6619	C11
3630	B8
3631	B7
3632	C7
6623	A11
6624	C12
3637	A9
3638	B8
3639	C6
3640	A7
3641	C6
3642	B8
3420	C3
3421	D2
3422	D3
3449	F2
3455	C2
3456	D2
3457	C4
3458	E3
3459	E2
3466	E12
3467	A12
3657	C3
3658	C2
3659	C2
3660	B6
7620	B10
3662	B6
3663	C13
3664	C2
7654	E12
9405	F4
9481	F5
9482	F7
5620	B11
5621	A5
6405	A12
6442	B12
6455	E3
6456	F3
3493	E8
3495	F13
3496	F8
3497	D13
3610	B5
3611	B3
3620	D11
3621	D11
3622	D11
3623	D10
3624	C11
6615	E5
6616	C5
6617	B6
6618	A6
F618	D11
6620	A10
6621	A10
6622	B10
6625	A7
6626	A7
6627	A6
6628	C13
7440-A	B3
7440-B	D3
3643	B8
3644	A12
3645	A11
3646	C12
3647	C12
3648	D11
3652	A12
3653	C11
3654	F4
3655	B2
3656	B2
7611	A7
7612	D6
7613	A9
7614	C5
I615	A11
7641	A12
7652	B13
7653	F13
9483	E7
9499	F13
9620	B10
9622	B11
F601	F2
F602	A9
6457	F2
6458	G3
6480	E10
6481	F9
6482	F8
6483	F10
6491	E13
6493	F12
6494	F12
6499	F14
6614	C5
F614	E3
F615	F12
F616	D10
F617	D11
I640	C12
F621	E13
F622	E13
F623	F2
F624	F11
F625	F12
F626	G3
F627	F11
F628	E2
F629	C7
7441	D3
7442	D13
7443	A13
7450-A	B4
7450-B	F5
7455	D3
7480	F10
7482	F6
7483	E6
7486	F9
7487	F8
I611	A12
I612	A13
I613	A10
I614	F4
I658	F8
I616	B12
I617	B13
I618	A9
I662	F9
I663	F10
I664	C11
I665	F9
I666	F7
I619	A9
I620	B11
I621	B4
I622	B13
I623	A7
I624	B8
F603	A11
F604	A11
F605	B3
F606	B12
F607	B2
F608	B11
F609	B13
F610	C2
F611	C13
F612	C13
F613	C2
I636	C10
I637	C11
I638	F4
I639	C10
I698	G2
I641	B7
I642	C9
I643	D4
I600	A9
I601	A11
I602	B5
I603	E8
I604	F2
I605	D3
I606	A13
I607	F8
I608	B8
I609	A11
I610	A9
I654	E5
I655	E10
I656	E9
I657	F7
I659	F13
I660	F10
I661	F10
I667	F13
I668	F10
I669	A12
I670	D12
I671	E12
I672	A7
I625	B9
I626	B11
I627	C5
I628	C3
I629	B8
I630	D13
I631	C8
I632	C11
I633	C11
I634	C12
I635	C12
I694	A6
I695	A6
I696	F3
I697	F3
I673	A6
I674	B9
I675	D3
I676	B12
I677	C12
I678	D2
I679	E2
I689	F10
I690	F4
I692	F11
I693	B5
I644	D2
I645	D3
I646	D5
I647	C6
I648	A7
I649	D4
I650	E3
I651	E5
I652	E12
I653	E10

Diversity table Frame deflection [A4]

Item	28"	32"	36"
1693			1P
2493			3.3nF
3480		6.8Ω	
3488	1MΩ	680kΩ	1MΩ
3621	1Ω	1.5Ω	1Ω
3622	1.5Ω	1.8Ω	1Ω
3625	120Ω	220Ω	56Ω
3626	100Ω	220Ω	56Ω
3654			4.7kΩ
3661		470Ω	120Ω
6499	BZX384-C10	PDZ9.1B	BZX384-C10
6624		BAS316	BAS316


A 4
FRAME DEFLECTION E/W DRIVE
COLD
HOT
FRAME DEFLECTION
PROTECTION CIRCUIT
A 4
ARC-PROT
(SEE NOTE)
A1-A3-23
SUP-ENABLE
EW - FRAME
A8-10
FRAMEDRIVE+
A8-11
FRAMEDRIVE-
A8-41
HFB_X-RAY-PROT
A8-6
EW-DRIVE
+11D
8Vb
+8V-S
+13V-LOT
+141V
-15V-LOT
GND-SUP
7440-A
LM358N
7440-B
LM358N
7450-A
LM393D
7450-B
LM393D
7441
BC857B
7455
PMBT2369
7614
BC847B
7612
BC847B
7611
BC847B
7613
TL431CZ
7620
TDA8177
VSUP
VSUPO
FLYB
FLYBACK GENERATOR
POWER AMPLIFIER
THERMAL PROTECTION
IN-
IN+
OUT
GND
7641
BC847B
7443
BC847B
7652
BC847B
7442
BC857B
7654
BC857B
7653
BC847B
7483
TCET1102
7482
TCDT1102G
7486
BC847B
7487
BC847B
7480
STP3NB60
5621
S13974
5620
90R
1625
EH-B
FRAME
DEFLECTION
COIL
1627
EH-B
TV
TO
VDAF
A33
A34
A35
A36
A37
A38
A39
A40
A41
A42
A43
A44
A45
A46
A47
A48
A49
A50
A4-46
EW
500mV / div DC
2ms / div
200mV / div DC
10us / div
2V / div DC
10us / div
20V / div DC
2ms / div
10V / div DC
200mV / div DC
1V / div DC
10µs / div
500mV / div DC
50V / div DC
PM3394B

NOTE BRIDGECOIL PROTECTION (5422) IS TRIGGERED VIA EW (SEE DIAGRAM A3 ALSO)

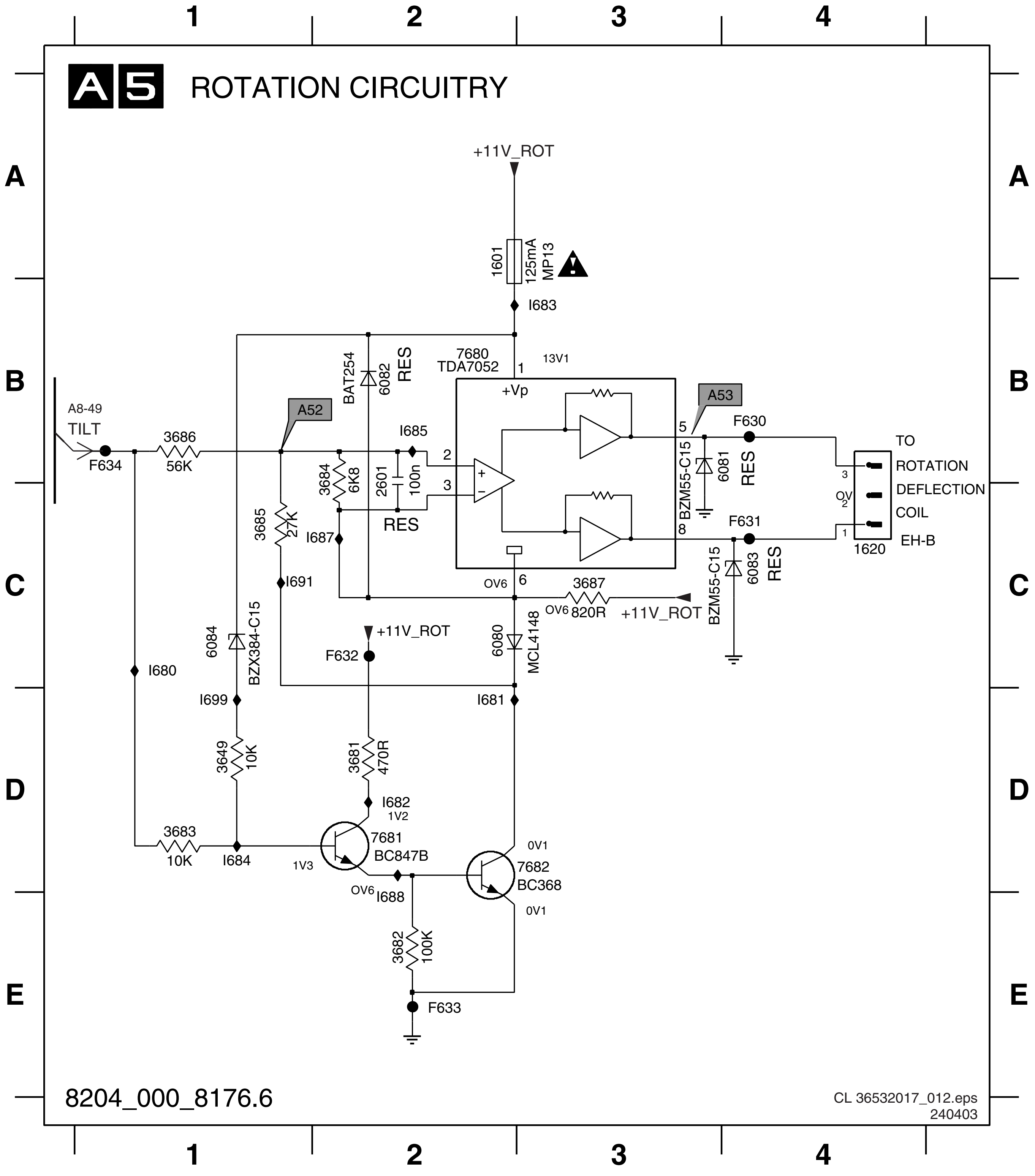
LINE DEFLECTION REPAIR KIT: 3122 785 90330

8204_000_8176.6

CL 36532017_011.eps
230403

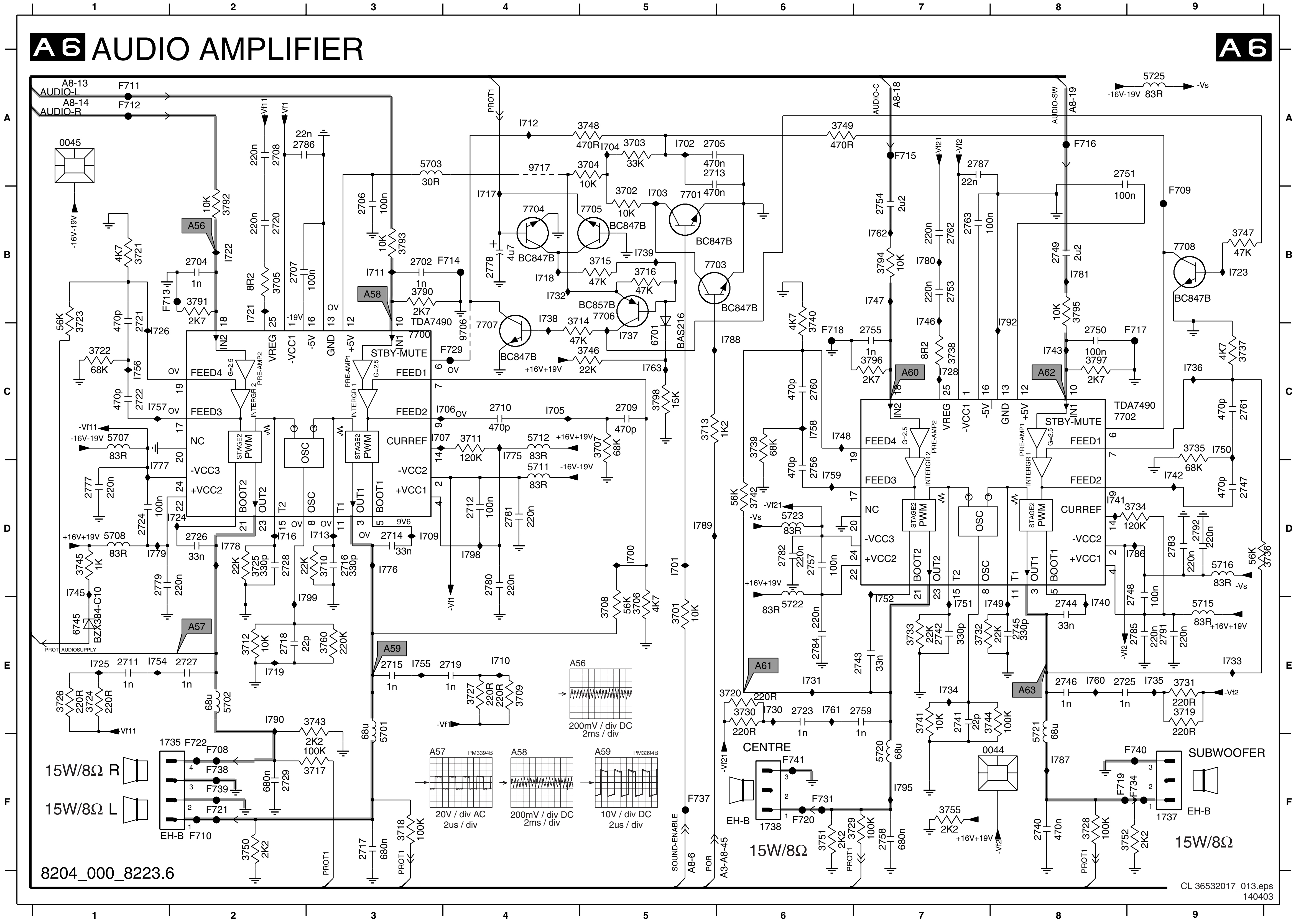
Large Signal Panel: Rotation Circuitry

1601 A2
1620 C4
2601 B2
3649 D1
3681 D2
3682 E2
3683 D1
3684 B2
3685 C1
3686 B1
3687 C3
6080 C2
6081 B3
6082 B2
6083 C4
6084 C1
7680 B2
7681 D2
7682 D3
F630 B4
F631 C4
F632 C2
F633 E2
F634 B1
I680 C1
I681 D2
I682 D2
I683 B3
I684 D1
I685 B2
I687 C2
I688 E2
I691 C1
I699 D1


1
2
3
4
A
B
C
D
E
A5
ROTATION CIRCUITRY
+11V_ROT
1601
125mA
MP13
I683
7680
TDA7052
13V1
+Vp
1
BAT254
6082
RES
A52
A53
A8-49
TILT
F634
3686
56K
I685
3684
6K8
2601
100n
RES
2
3
5
8
6
BZM55-C15
6081
RES
F630
F631
TO
ROTATION
DEFLECTION
COIL
1620
EH-B
3
2
1
0V
BZM55-C15
6083
RES
3685
27K
I687
I691
0V6
3687
820R
+11V_ROT
0V6
6080
MCL4148
+11V_ROT
F632
6084
BZX384-C15
I680
I699
I681
3649
10K
3681
470R
I682
1V2
7681
BC847B
3683
10K
I684
1V3
0V6
I688
7682
BC368
0V1
0V1
3682
100K
F633
8204_000_8176.6
CL 36532017_012.eps
240403

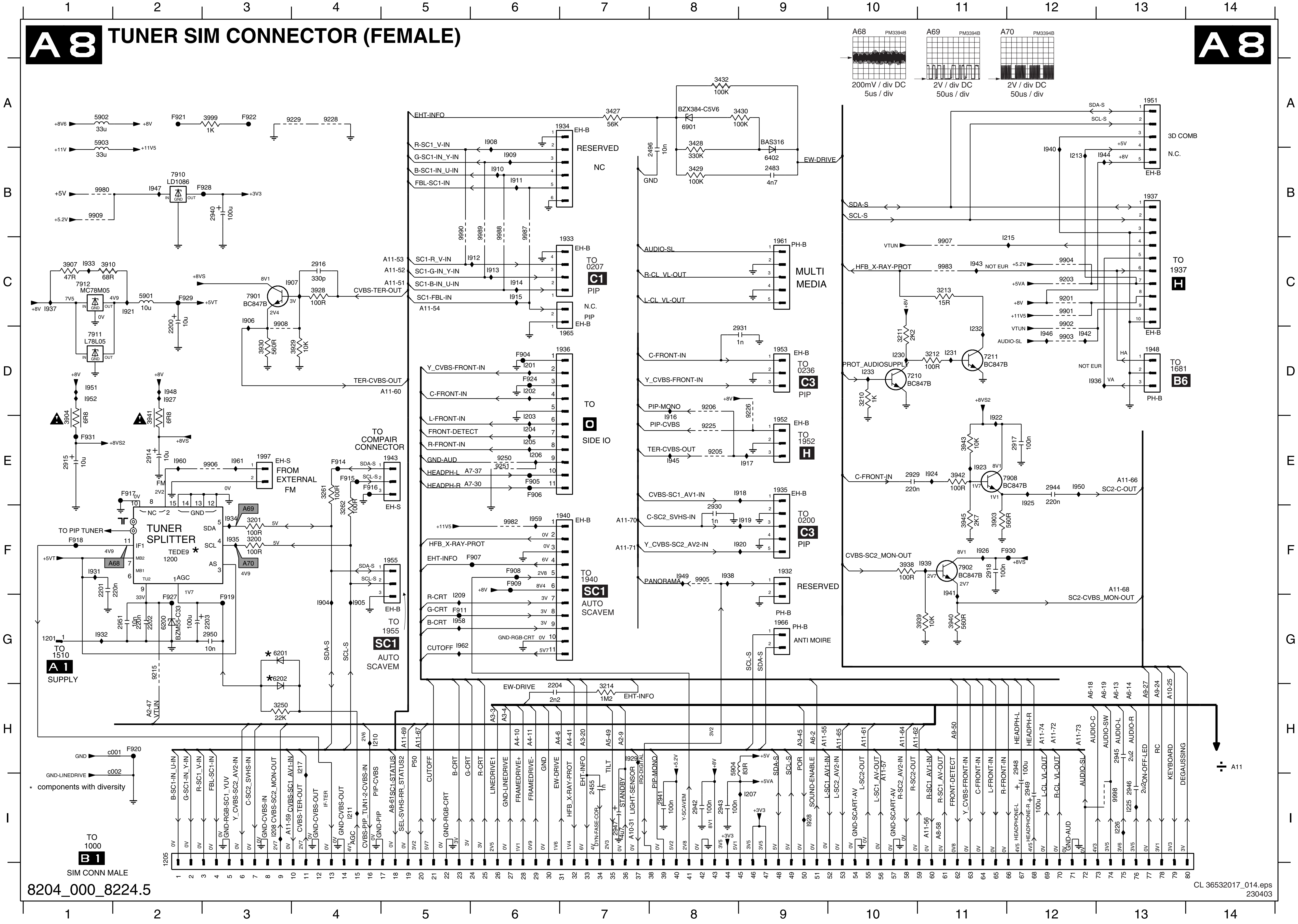
Personal Notes:

Large Signal Panel: Audio Amplifier


A6 AUDIO AMPLIFIER
A6
A8-13 AUDIO-L
A8-14 AUDIO-R
F711
F712
0045
-16V-19V
TDA7490
7700
TDA7490
7702
IN2
VREG
-VCC1
-5V
GND
+5V
IN1
STBY-MUTE
FEED1
FEED2
FEED3
FEED4
NC
-VCC3
+VCC2
-VCC2
+VCC1
CURREF
BOOT1
BOOT2
OUT1
OUT2
OSC
STAGE2 PWM
PRE-AMP1
PRE-AMP2
INTERGR 1
INTERGR 2
G=2.5
T1
T2
BC847B
BC857B
BAS216
BZX384-C10
PROT1
AUDIO-C
A8-18
AUDIO-SW
A8-19
A56
A57
A58
A59
A60
A61
A62
A63
5725
83R
-Vs
15W/8Ω R
15W/8Ω L
15W/8Ω
15W/8Ω
CENTRE
SUBWOOFER
EH-B
1735
1737
1738
0044
SOUND-ENABLE
A8-6
POR
A3-A8-45
PROT AUDIOSUPPLY
20V / div AC
2us / div
200mV / div DC
2ms / div
10V / div DC
2us / div
PM3394B
8204_000_8223.6
CL 36532017_013.eps
140403
1
2
3
4
5
6
7
8
9
A
B
C
D
E
F

0044	F7
0045	A1
1735	F2
1737	F9
1738	F6
2702	B3
2704	B2
2705	A5
2706	B3
2707	B2
2708	A2
2709	C5
2710	C4
2711	E1
2712	D4
2713	A5
2714	D3
2715	E3
2716	D3
2717	F3
2718	E2
2719	E4
2720	B2
2721	B1
2722	C1
2723	E6
2724	D1
2725	E8
2726	D2
2727	E2
2728	D2
2729	F2
2740	F8
2741	E7
2742	E7
2743	E7
2744	E8
2745	E8
2746	E8
2747	D9
2748	D8
2749	B8
2750	C8
2751	A8
2753	B7
2754	B7
2755	C7
2756	D6
2757	D6
2758	F7
2759	E7
2760	C6
2761	C9
2762	B7
2763	B7
2777	D1
2778	B4
2779	D1
2780	D4
2781	D4
2782	D6
2783	D9
2784	E6
2785	E9
2786	A2
2787	A7
2791	E9
2792	D9
3701	E5
3702	B5
3703	A5
3704	A5
3705	B2
3706	E5
3707	C5
3708	E5
3709	E4
3710	D3
3711	C4
3712	E2
3713	C5
3714	C4
3715	B5
3716	B5
3717	F3
3718	F3
3719	E9
3720	E6
3721	B1
3722	C1
3723	B1
3724	E1
3725	D2
3726	E1
3727	E4
3728	F8
3729	F7
3730	E6
3731	E9
3732	E7
3733	E7
3734	D9
3735	C9
3736	D9
3737	C9
3738	C7
3739	C6
3740	B6
3741	E7
3742	D6
3743	E3
3744	E8
3745	D1
3746	C5
3747	B9
3748	A5
3749	A6
3750	F2
3751	F6
3752	F9
3755	F7
3760	E3
3790	B3
3791	B2
3792	B2
3793	B3
3794	B7
3795	B8
3796	C7
3797	C8
3798	C5
5701	E3
5702	E2
5703	A3
5707	C1
5708	D1
5711	D4
5712	C4
5715	E9
5716	D9
5720	F7
5721	E8
5722	E6
5723	D6
5725	A9
6701	C5
6745	E1
7700	C3
7701	B5
7702	C8
7703	B5
7704	B4
7705	B5
7706	B5
7707	C4
7708	B9
9706	C4
9717	A4
F708	F2
F709	B9
F710	F2
F711	A1
F712	A1
F713	B2
F714	B4
F715	A7
F716	A8
F717	C9
F718	C6
F719	F8
F720	F6
F721	F2
F722	F2
F729	C4
F731	F6
F734	F9
F737	F5
F738	F2
F739	F2
F740	F9
F741	F6
I700	D5
I701	D5
I702	A5
I703	B5
I704	A5
I705	C4
I706	C4
I707	C3
I709	D3
I710	E4
I711	B3
I712	A4
I713	D3
I716	D2
I717	B4
I718	B4
I719	E2
I721	B2
I722	B2
I723	B9
I724	D2
I725	E1
I726	C1
I728	C7
I730	E6
I731	E6
I732	B4
I733	E9
I734	E7
I735	E9
I736	C9
I737	C5
I738	B4
I739	B5
I740	E8
I741	D8
I742	D9
I743	C8
I745	D1
I746	B7
I747	B7
I748	C6
I749	E8
I750	C9
I751	E7
I752	E7
I754	E1
I755	E3
I756	C1
I757	C1
I758	C6
I759	D6
I760	E8
I761	E6
I762	B7
I763	C5
I775	C4
I776	D3
I777	D1
I778	D2
I779	D1
I780	B7
I781	B8
I786	D9
I787	F8
I788	C6
I789	D5
I790	E2
I792	B8
I795	F7
I798	D4
I799	E3

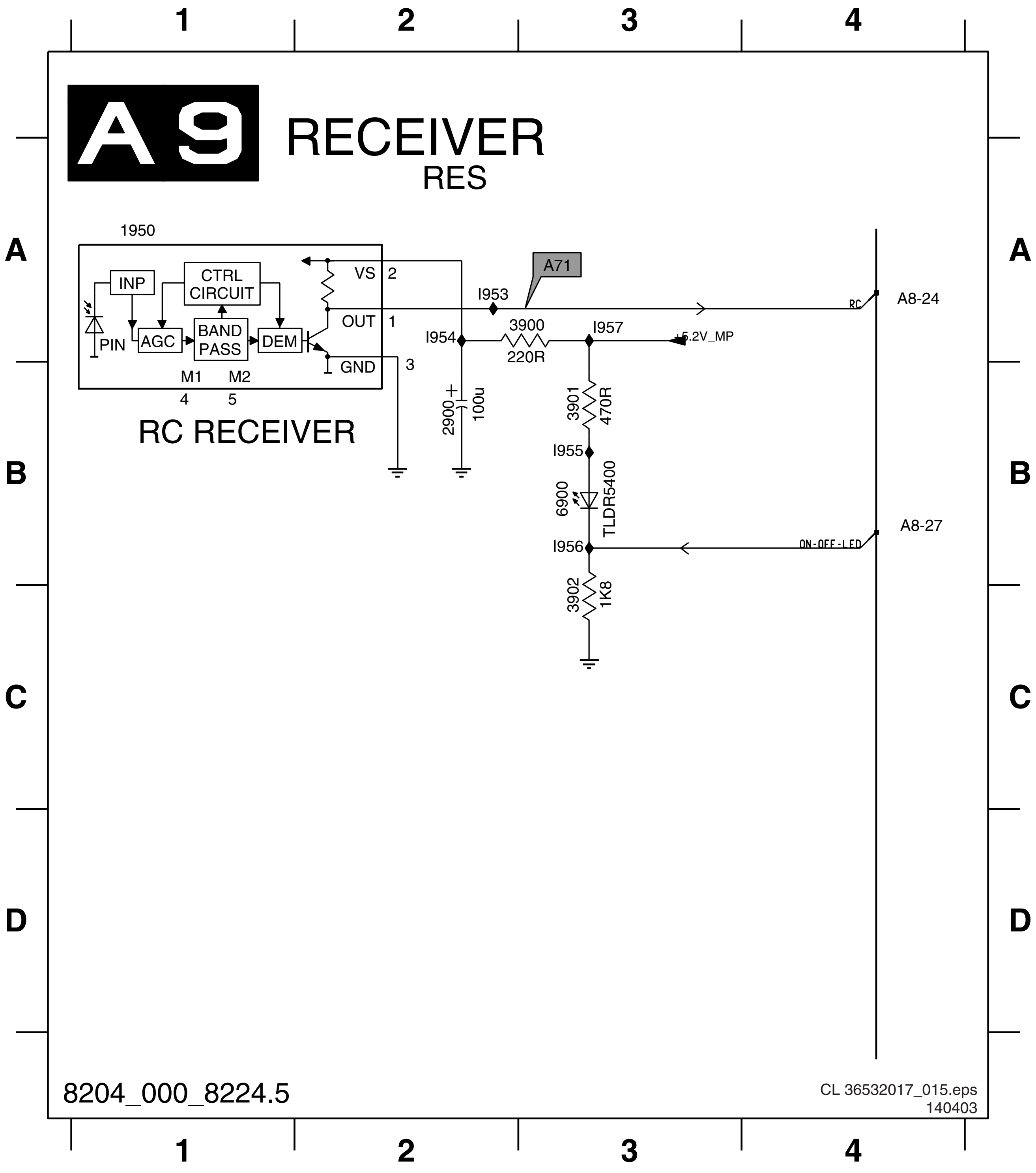
Large Signal Panel: Tuner SIM Connector (Female)


A8
TUNER SIM CONNECTOR (FEMALE)
A68 PM3394B 200mV / div DC 5us / div
A69 PM3394B 2V / div DC 50us / div
A70 PM3394B 2V / div DC 50us / div
7910 LD1086
7912 MC78M05
7911 L78L05
7901 BC847B
TUNER SPLITTER TEDE9 1200
TO PIP TUNER
FROM EXTERNAL FM
TO COMPAIR CONNECTOR
TO 1510 A1 SUPPLY
TO 1955 SC1 AUTO SCAVEM
RESERVED NC
TO 0207 C1 PIP
TO O SIDE IO
TO 1940 SC1 AUTO SCAVEM
MULTI MEDIA
TO 0236 C3 PIP
TO 1952 H
TO 0200 C3 PIP
RESERVED
ANTI MOIRE
3D COMB
N.C.
TO 1937 H
TO 1681 B6
7210 BC847B
7211 BC847B
7908 BC847B
7902 BC847B
EW-DRIVE
EHT-INFO
TO 1000 B1 SIM CONN MALE
1205
* components with diversity
8204_000_8224.5
CL 36532017_014.eps
230403

1200	F2
1201	G1
1205	I2
1932	F9
1933	B6
1934	A6
1935	E9
1936	D6
1937	B13
1940	F6
1943	E5
1948	D13
1951	A13
1952	E9
1953	D9
1955	F5
1961	C9
1965	D6
1966	G9
1997	E3
2200	D2
2201	F1
2202	G2
2203	G3
2455	I7
2483	B9
2496	B8
2914	E2
2915	E1
2916	C4
2917	E12
2918	F11
2929	E10
2930	F8
2931	D9
2940	B3
2941	I8
2942	I8
2943	I8
2944	E12
2945	H13
2946	I13
2947	I7
2948	H12
2949	I12
2950	G3
2951	G2
3200	F3
3201	F3
3210	D10
3211	D10
3212	D11
3213	C11
3250	H3
3261	E4
3262	F4
3427	A7
3428	A8
3429	B8
3430	A9
3432	A8
3903	F11
3904	E1
3907	C1
3910	C1
3928	C4
3929	D4
3930	D3
3938	F10
3939	G11
3940	G11
3941	E2
3942	E11
3943	E11
3945	F11
3999	A3
5901	C2
5902	A1
5903	A1
5904	H8
6200	G2
6201	G3
6202	G3
6402	B9
6901	A8
7210	D10
7211	D11
7901	C3
7902	F11
7908	E11
7910	B2
7911	D1
7912	C1
9201	C12
9203	C12
9205	E8
9206	D8
9215	G2
9225	E8
9226	D9
9228	A4
9229	A4
9250	E6
9251	E6
9901	C12
9902	C12
9903	D12
9904	C12
9905	F8
9906	E3
9907	C11
9908	C3
9909	B1
9980	B1
9982	F6
9983	C11
9987	B6
9988	B6
9989	B6
9990	B5
9998	I13
F904	D6
F905	E6
F906	E6
F907	F6
F908	F6
F909	F6
F911	G5
F914	E4
F915	E4
F916	E4
F917	E2
F918	F1
F919	G3
F920	H2
F921	A2
F922	A3
F924	D6
F927	G2
F928	B3
F929	C2
F930	F12
F931	E1
I201	D6
I202	D6
I203	E6
I204	E6
I205	E6
I206	E6
I207	I9
I208	I3
I209	G5
I210	H4
I211	I4
I213	B12
I215	C12
I217	H4
I225	I13
I226	I13
I230	D10
I231	D11
I232	D11
I233	D10
I904	G4
I905	G4
I906	C3
I907	C4
I908	A6
I909	B6
I910	B6
I911	B6
I912	C6
I913	C6
I914	C6
I915	C6
I916	E8
I917	E9
I918	E9
I919	F9
I920	F9
I921	C2
I922	E11
I923	E11
I924	E11
I925	E12
I926	F11
I927	D2
I928	I9
I929	H7
I931	F1
I932	G1
I933	C1
I934	F3
I935	F3
I936	D12
I937	C1
I938	F8
I939	F11
I940	B12
I941	F11
I942	D12
I943	C11
I944	B13
I945	E8
I946	D12
I947	B2
I948	D2
I949	F8
I950	E12
I951	D1
I952	D1
I958	G5
I959	F6
I960	E2
I961	E3
I962	G5
c001	H2
c002	I2

Large Signal Panel: Receiver

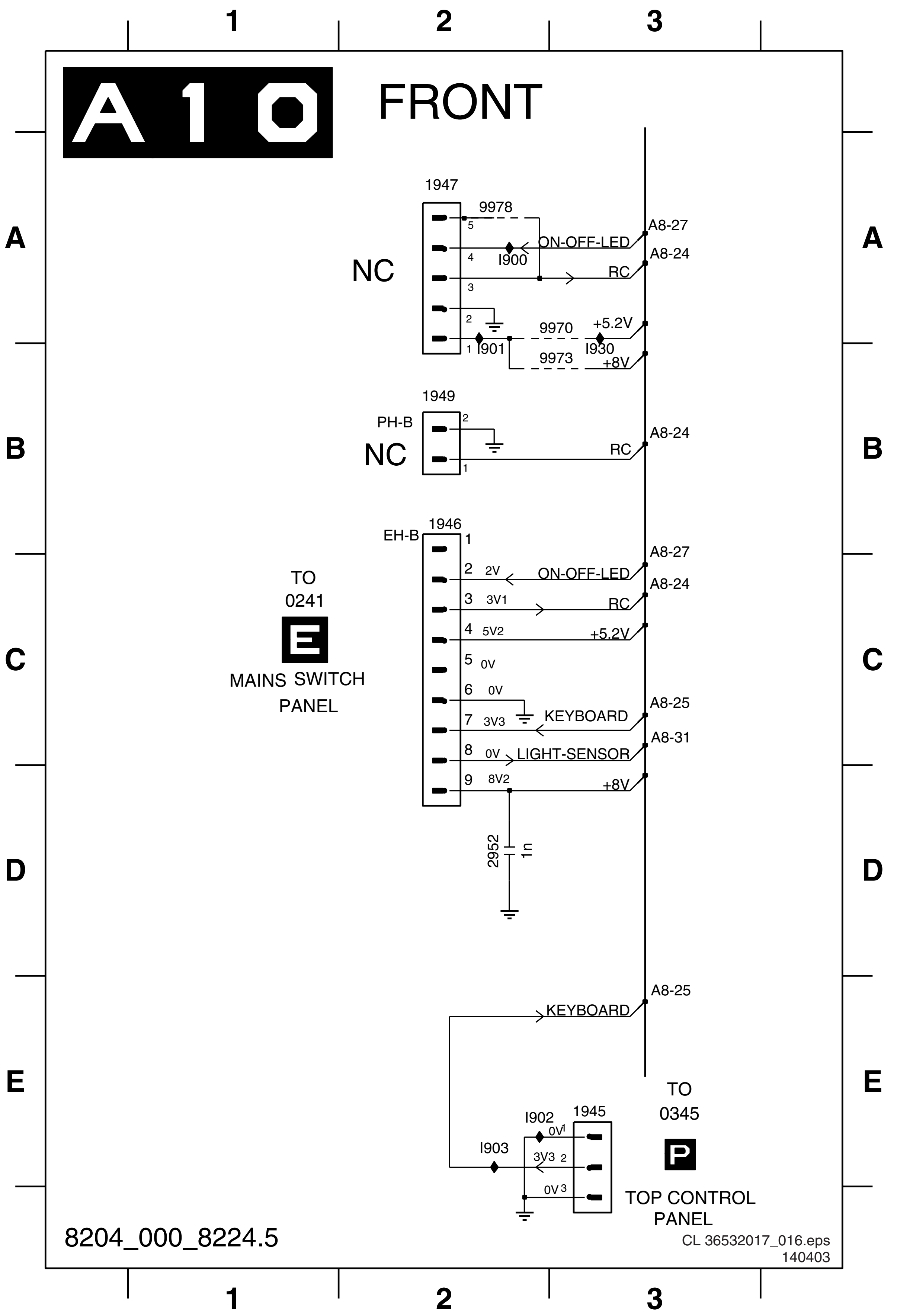
1950 A1	2900 B2	3900 A3	3901 B3	3902 C3	6900 B3	I953 A2	I954 A2	I955 B3	I956 B3	I957 A3



A9 RECEIVER
RES
1950
INP
CTRL CIRCUIT
AGC
BAND PASS
DEM
PIN
VS 2
OUT 1
GND 3
M1 M2
4 5
RC RECEIVER
I953
A71
I954
3900
220R
I957
+5.2V_MP
RC
A8-24
2900 100u
3901 470R
I955
6900 TLDR5400
I956
ON-OFF-LED
A8-27
3902 1K8
1 2 3 4
A B C D
8204_000_8224.5
CL 36532017_015.eps
140403

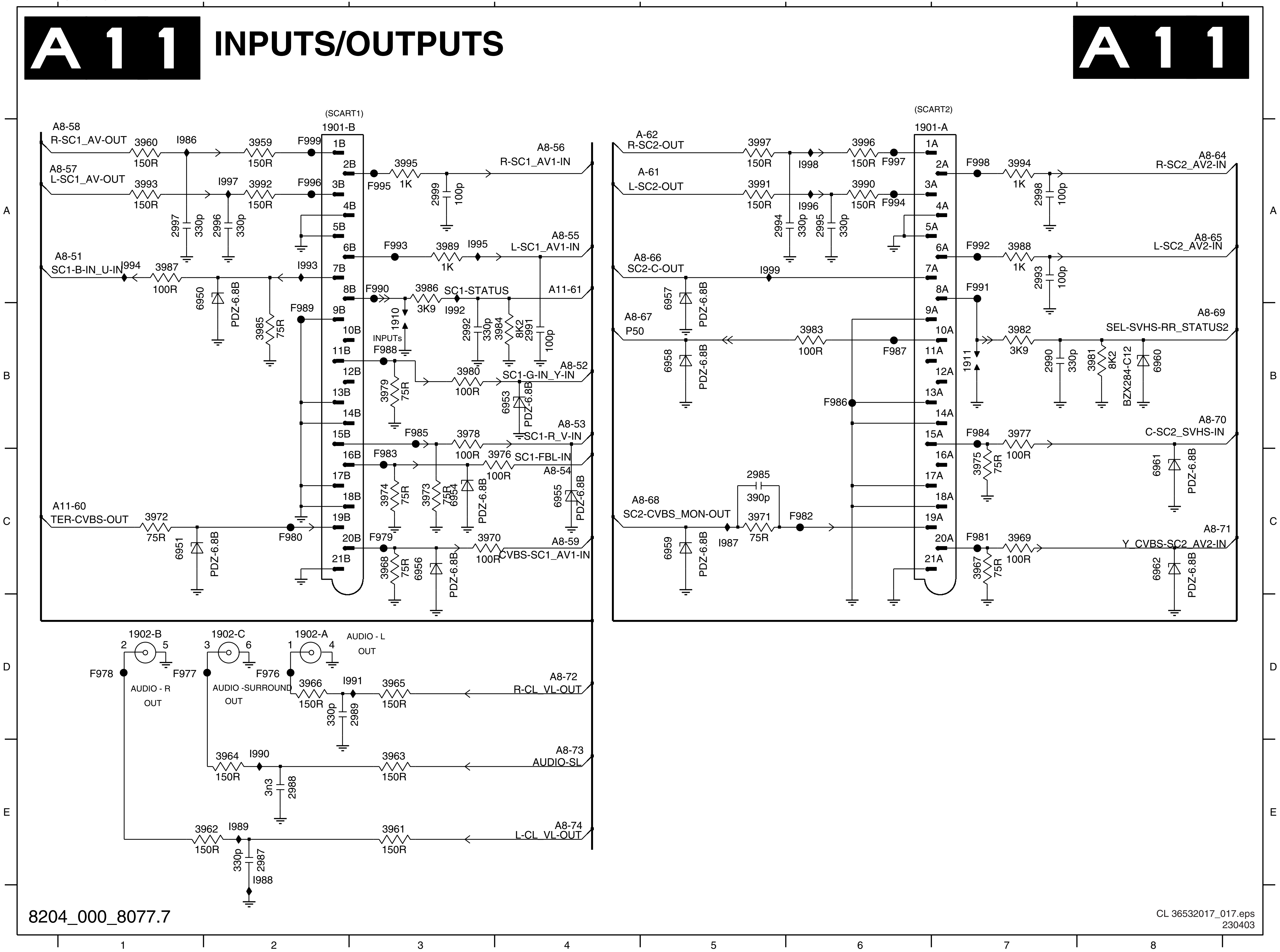
Large Signal Panel: Front

1945	E3
1946	B2
1947	A2
1949	B2
2952	D2
9970	A3
9973	B3
9978	A2
I900	A2
I901	B2
I902	E2
I903	E2
I930	B3



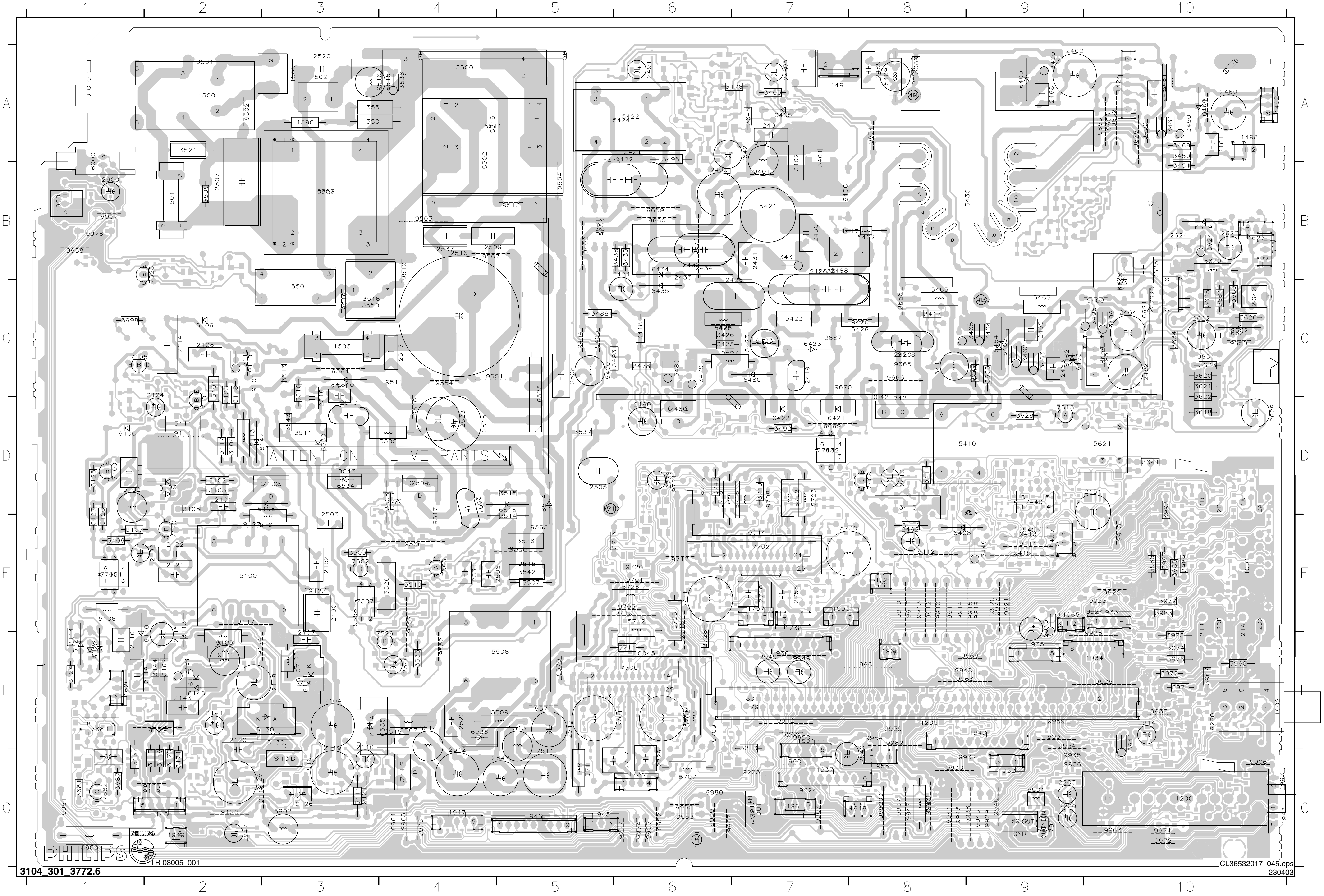
A10 FRONT
1947
9978
NC
ON-OFF-LED
A8-27
I900
RC
A8-24
9970
+5.2V
I901
9973
I930
+8V
1949
PH-B
NC
RC
A8-24
EH-B
1946
TO 0241
E
MAINS SWITCH PANEL
2V
ON-OFF-LED
A8-27
3V1
RC
A8-24
5V2
+5.2V
0V
0V
3V3
KEYBOARD
A8-25
0V
LIGHT-SENSOR
A8-31
8V2
+8V
2952 1n
KEYBOARD
A8-25
I902
1945
TO 0345
I903
0V
3V3
0V
P
TOP CONTROL PANEL
1 2 3
A B C D E
8204_000_8224.5
CL 36532017_016.eps
140403

Large Signal Panel: Inputs/Outputs


A 11
INPUTS/OUTPUTS
A 11
(SCART1)
1901-B
(SCART2)
1901-A
A8-58 R-SC1_AV-OUT
A8-57 L-SC1_AV-OUT
A8-51 SC1-B-IN_U-IN
A11-60 TER-CVBS-OUT
A8-56 R-SC1_AV1-IN
A8-55 L-SC1_AV1-IN
A11-61 SC1-STATUS
A8-52 SC1-G-IN_Y-IN
A8-53 SC1-R_V-IN
A8-54 SC1-FBL-IN
A8-59 CVBS-SC1_AV1-IN
INPUTs
A-62 R-SC2-OUT
A-61 L-SC2-OUT
A8-66 SC2-C-OUT
A8-67 P50
A8-68 SC2-CVBS_MON-OUT
A8-64 R-SC2_AV2-IN
A8-65 L-SC2_AV2-IN
A8-69 SEL-SVHS-RR_STATUS2
A8-70 C-SC2_SVHS-IN
A8-71 Y_CVBS-SC2_AV2-IN
1902-B
1902-C
1902-A
AUDIO - R OUT
AUDIO -SURROUND OUT
AUDIO - L OUT
A8-72 R-CL_VL-OUT
A8-73 AUDIO-SL
A8-74 L-CL_VL-OUT
PDZ-6.8B
BZX284-C12
8204_000_8077.7
CL 36532017_017.eps
230403
A
B
C
D
E
1
2
3
4
5
6
7
8

1901-A	A6
1901-B	A2
1902-A	D2
1902-B	D1
1902-C	D2
1910	B3
1911	B7
2985	C5
2987	E2
2988	E2
2989	D3
2990	B7
2991	B4
2992	B3
2993	A7
2994	A5
2995	A6
2996	A2
2997	A1
2998	A7
2999	A3
3959	A2
3960	A1
3961	E3
3962	E2
3963	E3
3964	E2
3965	D3
3966	D2
3967	C7
3968	C3
3969	C7
3970	C3
3971	C5
3972	C1
3973	C3
3974	C3
3975	C7
3976	C4
3977	B7
3978	B3
3979	B3
3980	B3
3981	B8
3982	B7
3983	B6
3984	B4
3985	B2
3986	A3
3987	A1
3988	A7
3989	A3
3990	A6
3992	A2
3991	A5
3993	A1
3994	A7
3995	A3
3996	A6
3997	A5
6950	A1
6951	C1
6953	B4
6954	C3
6955	C4
6956	C3
6957	A5
6958	B5
6959	C5
6960	B8
6961	C8
6962	C8
F976	D2
F977	D1
F978	D1
F979	C3
F980	C2
F981	C7
F982	C6
F983	C3
F984	B7
F985	B3
F986	B6
F987	B6
F988	B3
F989	B2
F990	A3
F991	A7
F992	A7
F993	A3
F994	A6
F995	A3
F996	A2
F997	A6
F998	A7
F999	A2
I986	A1
I987	C5
I988	E2
I989	E2
I990	E2
I991	D3
I992	B3
I993	A2
I994	A1
I995	A3
I996	A6
I997	A2
I998	A6
I999	A5

Layout Large Signal Panel (Top Side)


1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
G
ATTENTION : LIVE PARTS
PHILIPS
TR 08005_001
3104_301_3772.6
CL36532017_045.eps
230403

Mapping Large Signal Panel (Top Side)

0042	C8
0043	D3
0044	E7
0045	F5
1146	G2
1148	G3
1149	F2
1200	G10
1201	G6
1205	F8
1417	B8
1424	A10
1430	C9
1491	A7
1492	A10
1493	A8
1495	C10
1498	A10
1499	D9
1500	A2
1501	B2
1502	A3
1503	C3
1505	A2
1510	E5
1550	B3
1590	A3
1601	G1
1620	F1
1625	B10
1627	B10
1693	D9
1735	G5
1737	E7
1738	E7
1901	E10
1902	F10
1932	E8
1933	E10
1934	F10
1935	F9
1936	F7
1937	G7
1940	F9
1943	G10
1945	G5
1946	G5
1947	G4
1948	G8
1949	G2
1950	B1
1951	G7
1952	G9
1953	E7
1955	G8
1961	G7
1965	E9
1966	F8
1997	G10
2100	E3
2101	D2
2102	E2
2104	F3
2107	F3
2108	C2
2111	D1
2114	C2
2115	E2
2116	F1
2118	F2
2119	F3
2120	F2
2121	E2
2122	E2
2124	C2
2126	G2
2140	G3
2141	F2
2143	F2
2148	F1
2152	E3
2200	G9
2203	G9
2400	B6
2401	A7
2402	A10
2405	A7
2413	D8
2418	C8
2419	C7
2420	C8
2421	B6
2422	A5
2423	A6
2424	C5
2425	C7
2426	C6
2430	B7
2431	B7
2432	B6
2433	B6
2434	B6
2435	C8
2450	A10
2451	D10
2460	A10
2461	A10
2462	C10
2463	C9
2464	C10
2465	C9
2468	A9
2469	A8
2487	A7
2488	C8
2490	D6
2491	A6
2492	E8
2501	D4
2503	E3
2505	D5
2506	E5
2507	A2
2508	C5
2509	B5
2510	D3
2511	G5
2512	G4
2515	D4
2516	B4
2517	C4
2518	D3
2519	F4
2520	A3
2522	F4
2523	D4
2531	E4
2537	B4
2540	F4
2541	C3
2542	G5
2543	F5
2622	C10
2624	B10
2625	B10
2627	B10
2628	D10
2642	A6
2717	G5
2729	G6
2740	E7
2758	E7
2778	D6
2900	B1
2914	F10
2915	E9
2940	F7
2947	G2
2948	F7
2949	F7
3101	C2
3102	D2
3103	D2
3104	D2
3105	E2
3106	E1
3107	E2
3108	C2
3110	C2
3111	D2
3113	E2
3114	E1
3115	G1
3116	G2
3117	D2
3118	C2
3124	F1
3125	D1
3126	E1
3127	E1
3137	G1
3141	G3
3144	F2
3161	F2
3162	F2
3170	G2
3171	G2
3213	F7
3400	A9
3401	A7
3402	A7
3403	A7
3409	C9
3411	D8
3415	D8
3416	E8
3417	C8
3418	C6
3423	C7
3425	C6
3426	C6
3431	B7
3435	B6
3436	B5
3449	E9
3450	A10
3451	B10
3460	A10
3461	A10
3462	C9
3463	C9
3464	C9
3465	C9
3469	A10
3476	A7
3478	C6
3479	C6
3480	C6
3488	C5
3492	D7
3493	C6
3495	A6
3498	C10
3499	C10
3500	A4
3501	A4
3505	E3
3507	E5
3508	D4
3509	B2
3511	D3
3513	C3
3514	E4
3515	D5
3516	C3
3518	C3
3520	E4
3521	A2
3526	E5
3533	F4
3536	A4
3537	D5
3540	E4
3542	E5
3543	D3
3550	C4
3551	A3
3620	C10
3621	C10
3622	C10
3623	C10
3624	B10
3625	C10
3626	C10
3628	D9
3634	C10
3635	C9
3641	D10
3642	B10
3645	A7
3648	D10
3661	C10
3663	C10
3681	G1
3687	G1
3689	A8
3711	F6
3713	E6
3728	F6
3747	E6
3749	D7
3755	E6
3904	E9
3941	F10
3967	F10
3968	F10
3971	F10
3972	F10
3973	F10
3974	E10
3975	F10
3979	E10
3983	E10
3985	E10
3986	E10
3987	E10
3989	E10
3993	D10
3998	C1
5100	E2
5102	D1
5103	F3
5104	E2
5105	F2
5106	E1
5111	F2
5112	F2
5113	D2
5130	F2
5400	C5
5401	A7
5402	B8
5410	D9
5411	C8
5421	B7
5422	A6
5423	C7
5424	A6
5425	C7
5426	C8
5430	B10
5461	A10
5463	C9
5465	C8
5466	A8
5467	C6
5469	A8
5502	A5
5503	A3
5504	A3
5505	D4
5506	E5
5507	F4
5509	F5
5511	A4
5513	G5
5514	G4
5515	A3
5516	A5
5620	B10
5621	D10
5701	F6
5702	F6
5707	G6
5708	F6
5711	G5
5712	F6
5715	E7
5716	E6
5720	E7
5721	E6
5722	D7
5723	D7
5725	E5
5901	G9
5902	G3
5903	G1
5904	G8
6103	D2
6105	D2
6106	D1
6107	F3
6109	C2
6110	E2
6111	F3
6113	F2
6114	D2
6120	F1
6121	E1
6122	F1
6130	F3
6147	D3
6148	F2
6400	A9
6405	A7
6408	E8
6421	D8
6422	D7
6423	C7
6434	B6
6435	C6
6460	A10
6462	C9
6463	C9
6464	C9
6465	C9
6480	C7
6505	D4
6510	C3
6514	D5
6515	D5
6525	C5
6530	D3
6534	D3
6535	F3
6536	G4
6619	B10
6620	C10
6621	C10
6622	C10
6900	B1
7100	D1
7101	C2
7102	D3
7103	E1
7104	E1
7105	C1
7120	E2
7131	F3
7141	G4
7408	D8
7421	D8
7440	D9
7480	D6
7482	D8
7483	D8
7502	E3
7504	D4
7506	E4
7507	E4
7528	B2
7529	F4
7613	D9
7620	C10
7680	F1
7682	G1
7700	F6
7702	E6
7910	G7
7911	G9
7912	G9
9101	C2
9102	F3
9110	C2
9112	F2
9114	D2
9117	E2
9118	G2
9119	G2
9120	G2
9121	G3
9122	F1
9123	E3
9124	F2
9125	G2
9126	G3
9127	E2
9223	G7
9224	G7
9227	G6
9260	F10
9401	B7
9402	B5
9403	C5
9404	C5
9405	E9
9406	B7
9408	C10
9409	A10
9410	A8
9411	A10
9412	E8
9413	E9
9414	E9
9415	E9
9423	C7
9425	C6
9426	C8
9501	A2
9502	A2
9503	B4
9504	B5
9510	D4
9511	C4
9513	B5
9515	E5
9516	A3
9517	E4
9518	C3
9519	B4
9551	C4
9552	F4
9554	C4
9556	E5
9557	E4
9558	E3
9563	E5
9564	C3
9566	E4
9567	B4
9570	F5
9571	F5
9620	C10
9622	C10
9623	C9
9650	C10
9651	C10
9652	A10
9655	A10
9656	A10
9658	C8
9659	B6
9660	B6
9661	B5
9663	B5
9664	C10
9665	C8
9666	C8
9667	C7
9669	D7
9670	C7
9671	B6
9674	A8
9675	A10
9701	E6
9703	E6
9708	D7
9709	F6
9712	E6
9715	D6
9718	E6
9719	E6
9720	E6
9721	D6
9901	G7
9902	G8
9903	G8
9906	G10
9907	G7
9909	G6
9910	E8
9911	E8
9912	E8
9913	E8
9914	E8
9915	E9
9916	E8
9917	E8
9918	E10
9919	E9
9920	E9
9921	E9
9922	E10
9923	E10
9924	E10
9925	E10
9926	F10
9929	G9
9930	G8
9931	F9
9932	G9
9933	F10
9934	F9
9935	G9
9936	G9
9937	G8
9938	G9
9939	F8
9940	G9
9942	F7
9943	G8
9944	G8
9945	G8
9946	G9
9947	G8
9948	F8
9949	F7
9950	F7
9951	G1
9952	G6
9953	G6
9954	F8
9955	G6
9956	G6
9957	B1
9958	B1
9959	F9
9961	F8
9963	G10
9964	G4
9965	G4
9967	G6
9968	F8
9969	F9
9971	G10
9972	G10
9974	G6
9975	G4
9976	B1
9977	E9
9980	G6
9982	F8
9996	F7

CL36532017_45m.eps
230403

Mapping Large Signal Panel (Bottom Side)

0042	C3
0043	D8
0044	E4
0045	F6
1146	G9
1148	G8
1149	F9
1200	G1
1201	G5
1205	F3
1417	B4
1424	A1
1430	C2
1491	A3
1492	A1
1493	A3
1495	C2
1498	A1
1499	E2
1500	A9
1501	B9
1502	A8
1503	C8
1505	A8
1510	D6
1550	C8
1590	A8
1601	G10
1620	F10
1625	B1
1627	B1
1693	D2
1735	G5
1737	E4
1738	E4
1901	E1
1902	F1
1932	E3
1933	E2
1934	F2
1935	F2
1936	E4
1937	G4
1940	F2
1943	G1
1945	G6
1946	G6
1947	G7
1948	G3
1949	G9
1950	B10
1951	G4
1952	G2
1953	E3
1955	G3
1961	G4
1965	E2
1966	F3
1997	G1
2100	E8
2101	E9
2102	E9
2103	D9
2104	F8
2105	D9
2106	G9
2107	F8
2108	C9
2109	F10
2110	D10
2111	D10
2112	D9
2114	C9
2115	F9
2116	F10
2118	F8
2119	G8
2120	G9
2121	E9
2122	E9
2123	C10
2124	C9
2126	G9
2130	G8
2131	G9
2140	F8
2141	F9
2143	F9
2144	C10
2145	C9
2147	G8
2148	F10
2149	F10
2150	G9
2152	E8
2153	E10
2154	F9
2200	G2
2201	G1
2202	G1
2203	G2
2204	F3
2400	B5
2401	A4
2402	A2
2403	D2
2404	D2
2405	A4
2409	D3
2412	D3
2413	D3
2414	D3
2415	D3
2417	C3
2418	C3
2419	C4
2420	C3
2421	B5
2422	B5
2423	B5
2424	C5
2425	B4
2426	C5
2430	B4
2431	B4
2432	B5
2433	B5
2434	B5
2435	C4
2440	D2
2441	B2
2442	B2
2443	B2
2444	B1
2445	B1
2448	A5
2450	A1
2451	E1
2454	E2
2455	F3
2457	D1
2458	E3
2460	A1
2461	A1
2462	C1
2463	C2
2464	C1
2465	C2
2466	A5
2468	A2
2469	A3
2480	C5
2481	C5
2482	D5
2483	F2
2487	A4
2488	C4
2490	D5
2491	A5
2492	E3
2493	E2
2494	B3
2495	B4
2496	F2
2497	A5
2498	A5
2499	A5
2501	D7
2502	E7
2503	D8
2504	D8
2505	D6
2506	E6
2507	B9
2508	C6
2509	B6
2510	D8
2511	G6
2512	G7
2513	E7
2514	E7
2515	D7
2516	C7
2517	C7
2518	D8
2519	F7
2520	A8
2522	F7
2523	D7
2524	E7
2525	E7
2528	B9
2530	E7
2531	E7
2535	D6
2537	B7
2538	E7
2540	F7
2541	D8
2542	G7
2543	F6
2544	D7
2601	F10
2603	D1
2604	C1
2605	D1
2620	C1
2621	C1
2622	C1
2623	D2
2624	B1
2625	B1
2627	B1
2628	D1
2629	B1
2630	D1
2631	D1
2633	C1
2635	D2
2642	A4
2653	C1
2656	D2
2657	D2
2659	D2
2660	A5
2661	C1
2662	E2
2702	E5
2704	E5
2705	D5
2706	F5
2707	F5
2708	F5
2709	F6
2710	F6
2711	F5
2712	F6
2713	D5
2714	F6
2715	F6
2716	F5
2717	G5
2718	F5
2719	G6
2720	F5
2721	F5
2722	F5
2723	E4
2724	F5
2725	E5
2726	F5
2727	F5
2728	F5
2729	F5
2740	E4
2741	E4
2742	E4
2743	E4
2744	E5
2745	E4
2746	E5
2747	E4
2748	D5
2749	D5
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2754	D4
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2763	E4
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3730	D4
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3739	E4
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5425	C5
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9219	F1
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9503	B7
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9552	F7
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9656	A1
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9674	A3
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9916	E3
9917	E3
9918	E1
9919	E2
9920	E2
9921	E2
9922	E1
9923	E1
9924	E1
9925	F1
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9930	G3
9931	F2
9932	G2
9933	F1
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9946	G2
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9952	G5
9953	G5
9954	F3
9955	G5
9956	G5
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9958	B10
9959	F2
9960	G6
9961	F3
9962	G6
9963	G1
9964	G7
9965	G7
9966	G7
9967	G5
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9981	G2
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9983	G3
9985	E1
9986	E1
9987	F2
9988	F1
9989	F1
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9992	F1
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9996	F4
9997	F3
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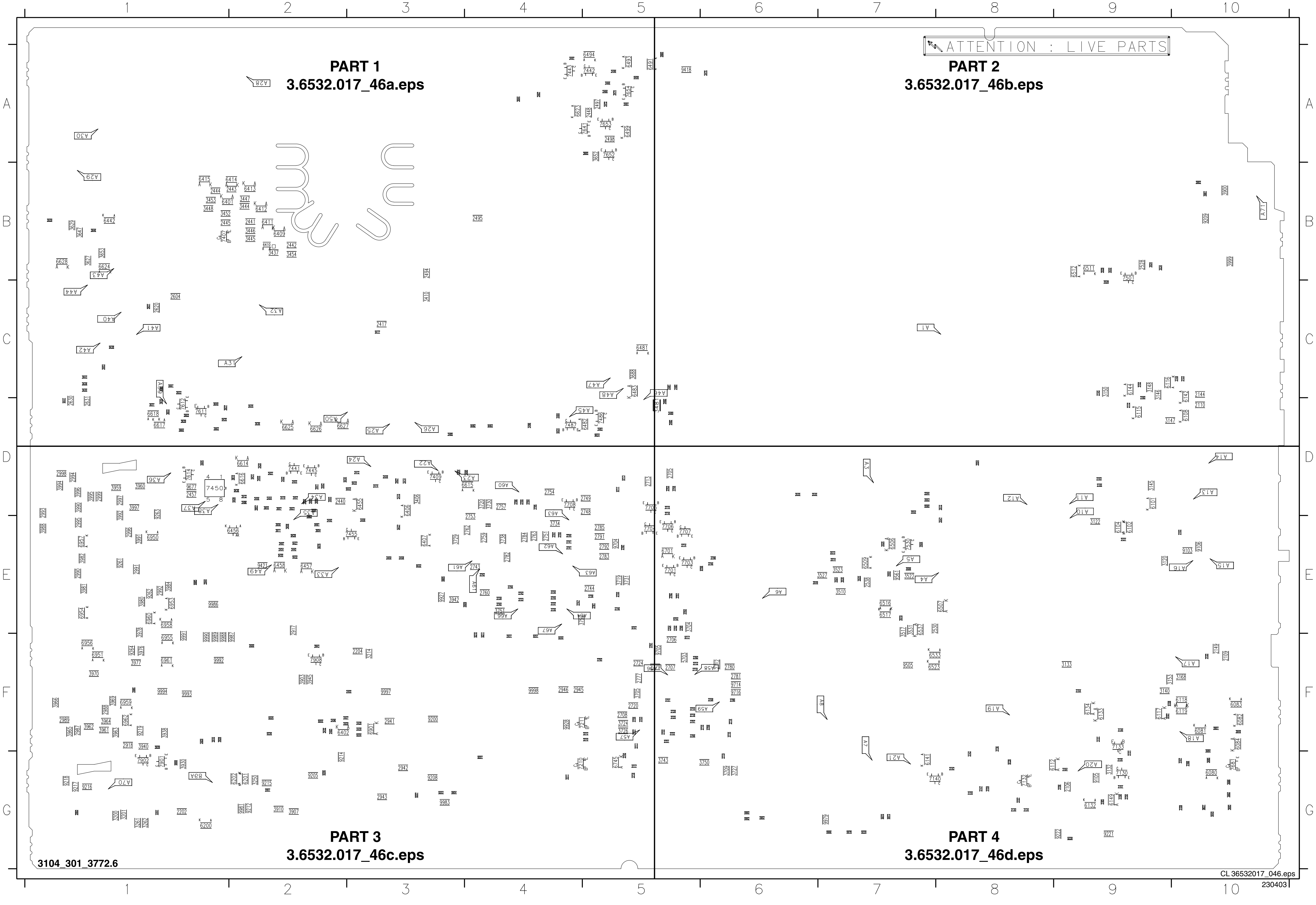
CL36532017_46m.eps
230403

Layout Large Signal Panel (Overview Bottom Side)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9
10
A
B
C
D
E
F
G
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3.6532.017_46a.eps
PART 2
3.6532.017_46b.eps
PART 3
3.6532.017_46c.eps
PART 4
3.6532.017_46d.eps
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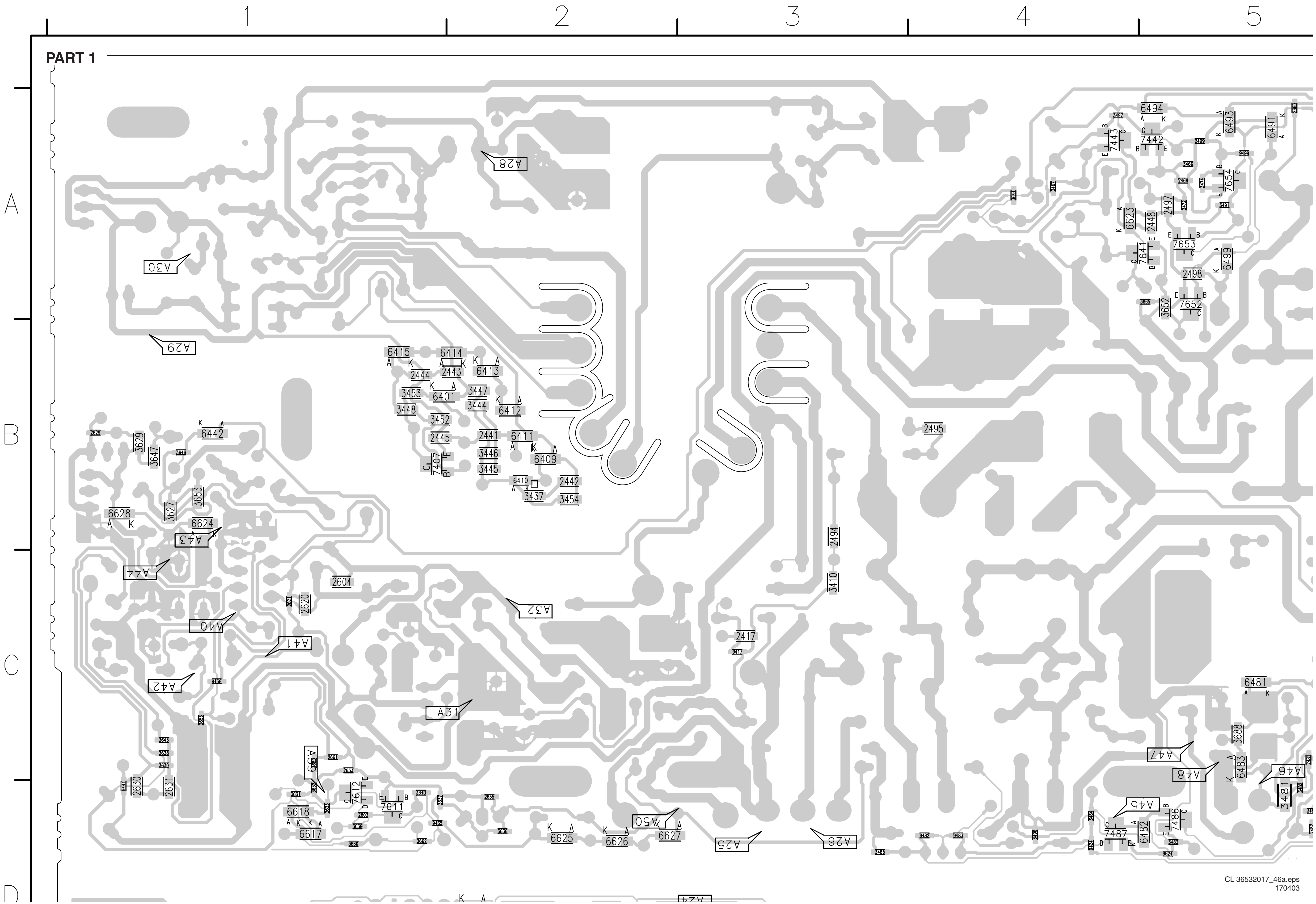
230403

Layout Large Signal Panel (Part 1 Bottom Side)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A24
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7486
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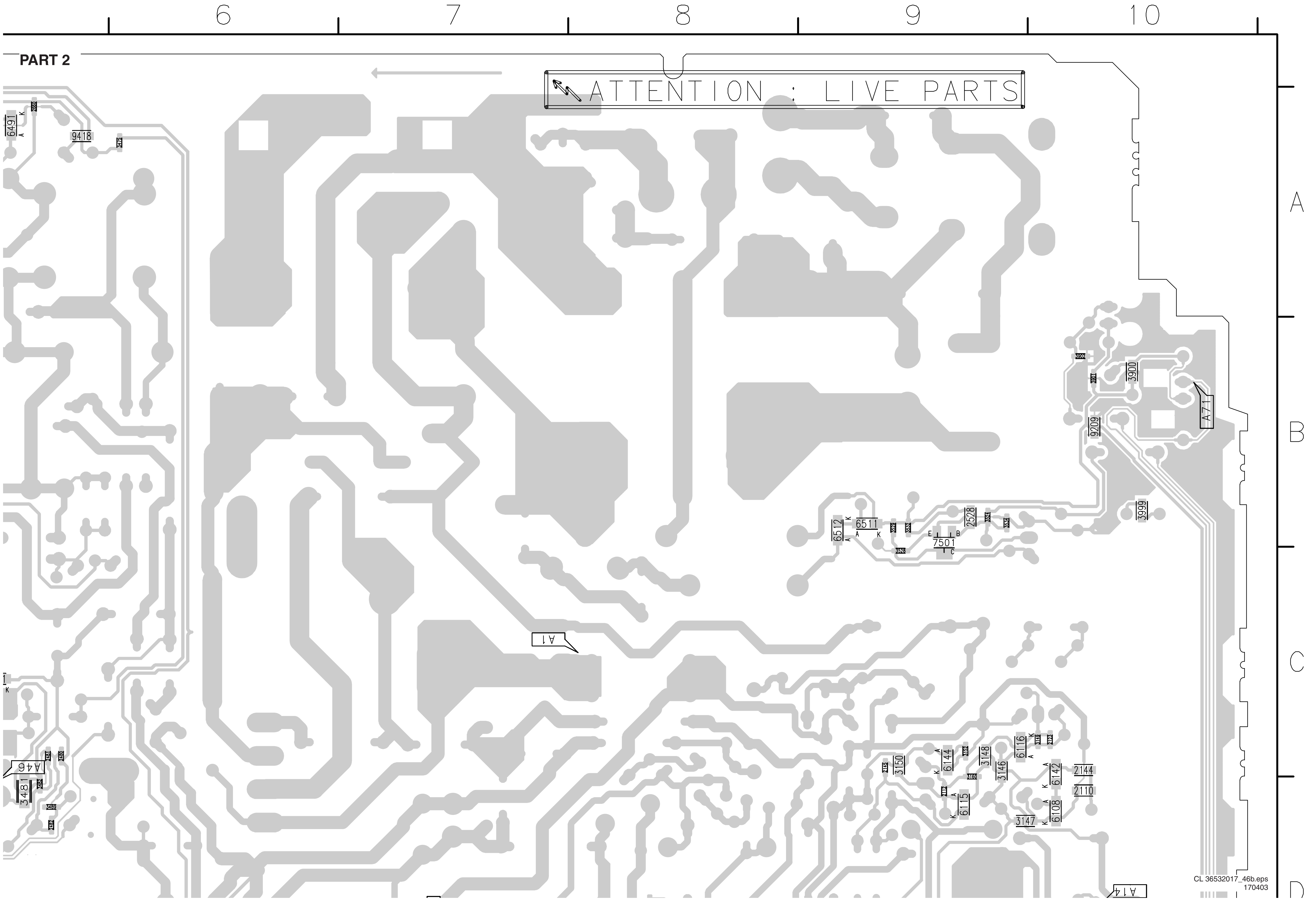
6626
6627

CL 36532017_46a.eps
170403

Layout Large Signal Panel (Part 2 Bottom Side)


6
7
8
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A
B
C
D
PART 2
ATTENTION : LIVE PARTS
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3999
6512
6511
7501
2528
A1
A46
3481
3150
6144
3148
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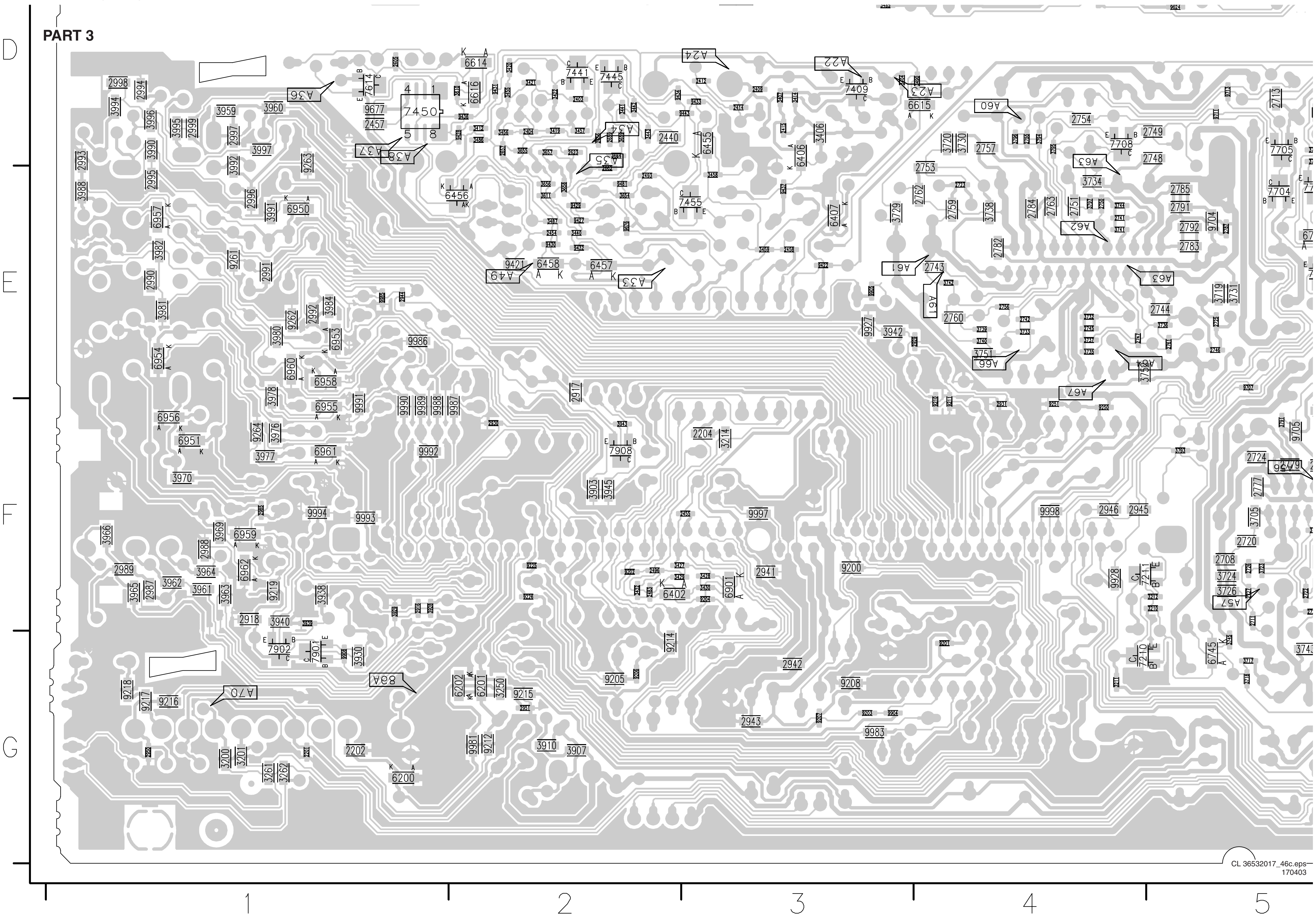
2144
2110
6115
6108
3147
A14

CL 36532017_46b.eps
170403

Layout Large Signal Panel (Part 3 Bottom Side)


PART 3
D
E
F
G
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A62
A61
A34
A35
A33
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A66
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A57
A70
A68
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7614
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7902
7901
7211
7210
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6616
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6201
6200
6745
9677
2457
2998
2994
3994
3996
3995
2999
3959
3960
2997
3997
3990
3992
2993
2995
3988
2996
3991
9263
9261
2991
3982
2990
3981
3980
9262
2992
3984
9986
3978
9991
9990
9989
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9264
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2987
3962
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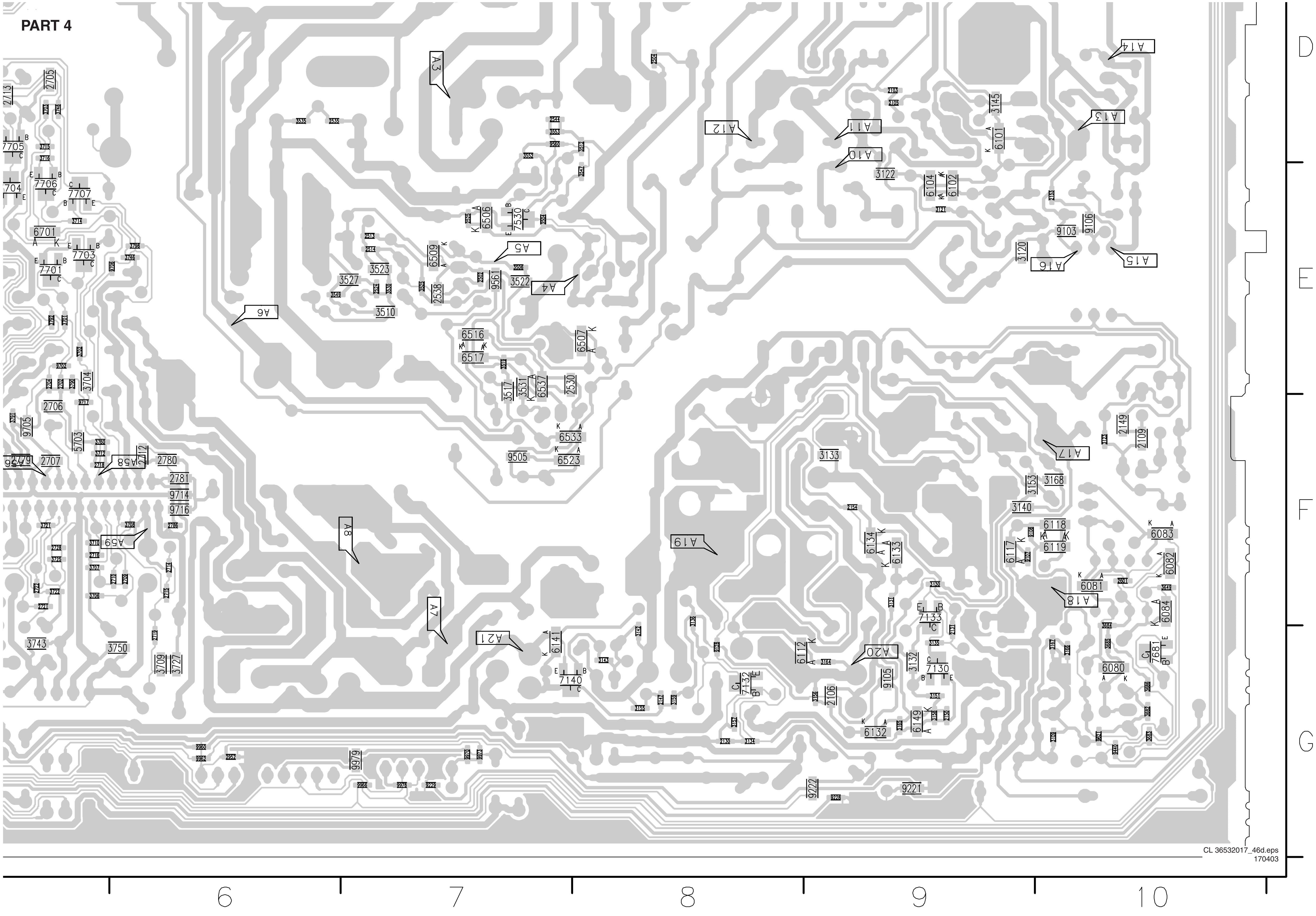
3963
9219
3938
2918
3940
3930
9218
9217
9216
3200
3201
3261
3262
2202
9981
9212
3250
9215
3910
3907
9421
2440
3406
3720
3730
2757
2754
2749
2748
2753
3734
2762
2759
3738
3729
2784
2763
2751
2785
2791
2792
2783
9704
2782
2743
2760
2744
3719
3731
9927
3942
3751
3750
2917
2204
3214
3903
3945
9997
2941
9200
9214
2942
9205
9208
2943
9983
9998
2946
2945
9928
2724
2779
2777
3705
2720
2708
3724
3726
9705
2713
3743

CL 36532017_46c.eps
170403

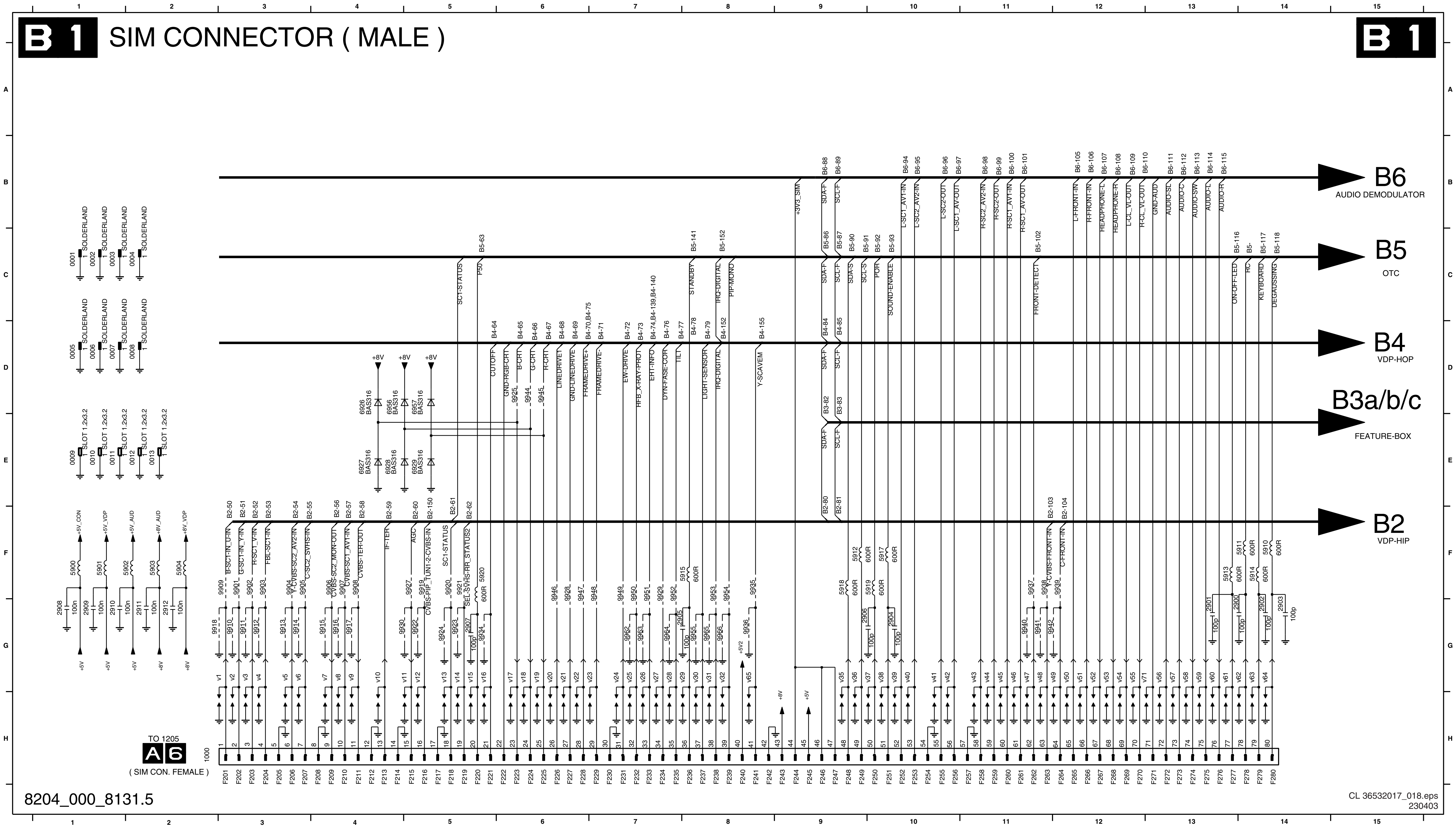
Layout Large Signal Panel (Part 4 Bottom Side)


PART 4
A3
A14
A12
A11
A10
A13
A5
A4
A6
A16
A15
A17
A8
A19
A18
A7
A21
A20
A58
A59
2705
2713
7705
7706
7707
704
6701
7703
7701
3527
3523
3510
6509
2538
9561
3522
6506
7530
6516
6517
6507
3517
3531
6537
2530
6533
6523
9505
3704
2706
9705
5703
2707
2779
2712
2780
2781
9714
9716
3743
3750
3709
3727
3145
6101
3122
6104
6102
9103
9106
3120
3133
2149
2109
3153
3168
3140
6118
6119
6117
6083
6082
6134
6133
6081
6084
7133
6112
3132
7130
9105
2106
6149
6132
6141
7140
7132
7681
6080
9979
9222
9221
D
E
F
G
6
7
8
9
10

CL 36532017_46d.eps
170403

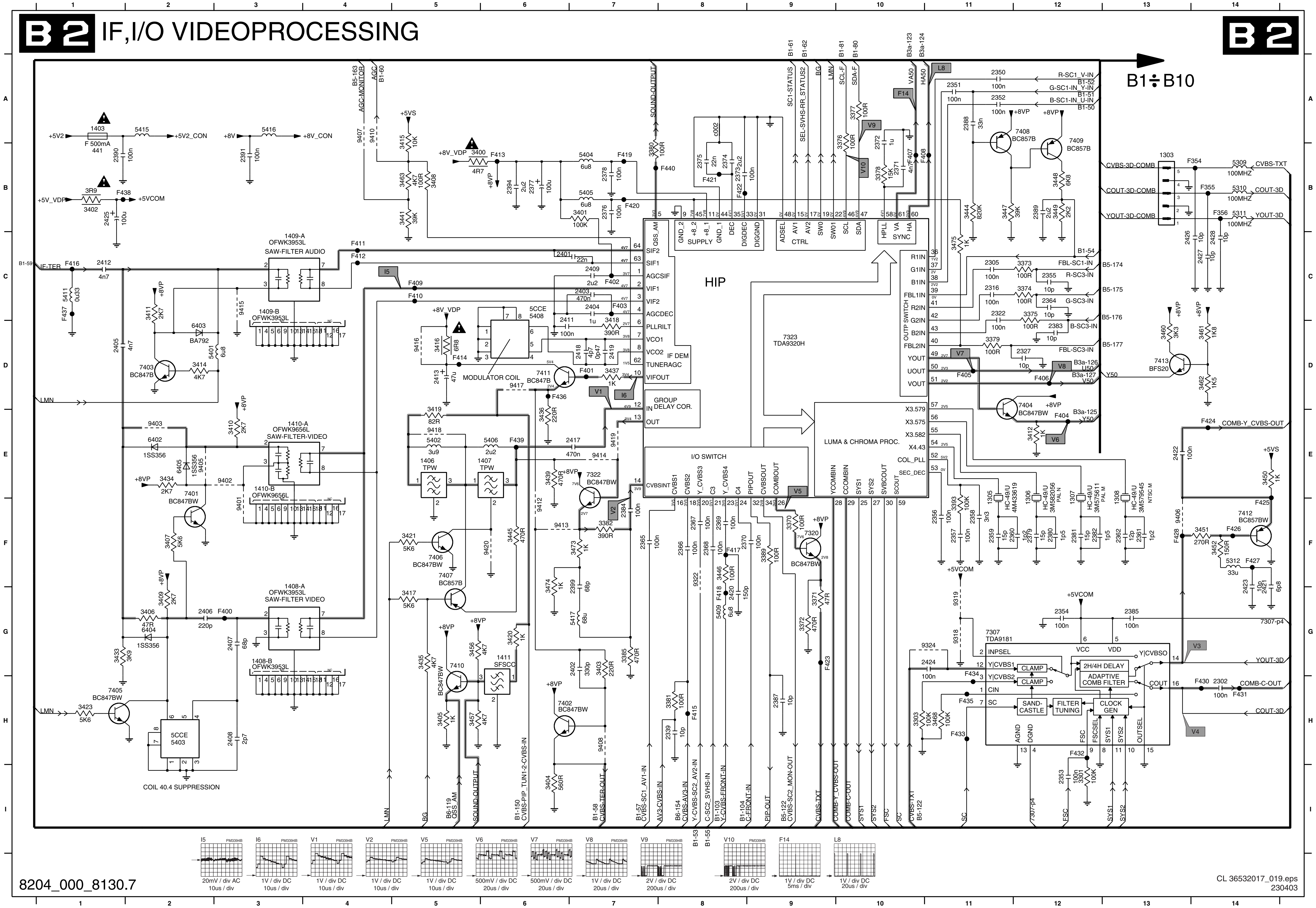
Small Signal Board: SIM Connector (Male)

v1 G3	v6 G3	v11 G5	v16 G5	v21 G6	v26 G7	v31 G8	v38 G10	v43 G11	v48 G11	v53 G12	v58 G13	v63 G14	0002 C1	0007 D1	0012 E2	2902 G14	2907 G5	2912 G2	5904 F2	5914 F14	5920 F5	6956 D4	9904 F3	9909 F3	9914 G3	9919 F5	9924 G5	9930 G5	9938 F11	9944 D6	9949 F7	9954 F8	9965 G8
v2 G3	v7 G4	v12 G5	v17 G6	v22 G6	v27 G7	v32 G8	v39 G10	v44 G11	v49 G12	v54 G12	v59 G13	v64 G14	0003 C1	0008 D2	0013 E2	2903 G14	2908 G1	5900 F1	5910 F14	5915 F8	6926 D4	6957 D5	9905 F3	9910 G3	9915 G4	9920 F5	9925 D6	9934 G5	9939 F12	9945 D6	9950 F7	9955 G8	9966 G8
v3 G3	v8 G4	v13 G5	v18 G6	v23 G7	v28 G7	v35 G9	v40 G10	v45 G11	v50 G12	v55 G12	v60 G13	v65 G8	0004 C2	0009 E1	1000 H2	2904 G10	2909 G1	5901 F1	5911 F14	5917 F10	6927 E4	9901 F3	9906 F4	9911 G3	9916 G4	9921 F5	9927 F5	9935 F8	9940 G11	9946 F6	9951 F7	9962 G7	
v4 G3	v9 G4	v14 G5	v19 G6	v24 G7	v29 G8	v36 G9	v41 G10	v46 G11	v51 G12	v56 G13	v61 G13	v71 G12	0005 D1	0010 E1	2900 G14	2905 G8	2910 G1	5902 F2	5912 F9	5918 F9	6928 E4	9902 F3	9907 F4	9912 G3	9917 G4	9922 G5	9928 F6	9936 G8	9941 G11	9947 F6	9952 F7	9963 G7	
v5 G3	v10 G4	v15 G5	v20 G6	v25 G7	v30 G8	v37 G10	v42 G10	v47 G11	v52 G12	v57 G13	v62 G14	0001 C1	0006 D1	0011 E1	2901 G13	2906 G9	2911 G2	5903 F2	5913 F13	5919 F10	6929 E5	9903 F3	9908 F4	9913 G3	9918 G2	9923 G5	9929 F7	9937 F11	9942 G12	9948 F7	9953 F8	9964 G7	


B1
SIM CONNECTOR (MALE)
B1
B6
AUDIO DEMODULATOR
B5
OTC
B4
VDP-HOP
B3a/b/c
FEATURE-BOX
B2
VDP-HIP
SOLDERLAND
SLOT 1.2x3.2
BAS316
+8V
+5V
100n
100p
600R
+3V3_SIM
SDA-F
SCL-F
SDA-S
SCL-S
POR
SOUND-ENABLE
L-SC1_AV1-IN
L-SC2_AV2-IN
L-SC2-OUT
L-SC1_AV-OUT
R-SC2_AV2-IN
R-SC2-OUT
R-SC1_AV1-IN
R-SC1_AV-OUT
FRONT-DETECT
L-FRONT-IN
R-FRONT-IN
HEADPHONE-L
HEADPHONE-R
L-CL_VL-OUT
R-CL_VL-OUT
GND-AUD
AUDIO-SL
AUDIO-C
AUDIO-SW
AUDIO-L
AUDIO-R
ON-OFF-LED
RC
KEYBOARD
DEGAUSSING
SC1-STATUS
P50
STANDBY
IRQ-DIGITAL
PIP-MONO
CUTOFF
GND-RGB-CRT
B-CRT
G-CRT
R-CRT
LINEDRIVE1
GND-LINEDRIVE
FRAMEDRIVE
EW-DRIVE
HFB_X-RAY-PROT
EHT-INFO
DYN-FASE-COR
TILT
LIGHT-SENSOR
Y-SCAVEM
B-SC1-IN_U-IN
G-SC1-IN_Y-IN
R-SC1_V-IN
FBL-SC1-IN
CVBS-SC2_AV2-IN
Y-CVBS-SC2_AV2-IN
C-SC2_SVHS-IN
CVBS-SC2_MON-OUT
CVBS-SC1_AV1-IN
CVBS-TER-OUT
IF-TER
AGC
CVBS-PIP_TUN1-2-CVBS-IN
SC1-STATUS
SEL-SVHS-RR_STATUS2
CVBS-FRONT-IN
C-FRONT-IN
TO 1205
A6
(SIM CON. FEMALE)
1000
8204_000_8131.5
CL 36532017_018.eps
230403

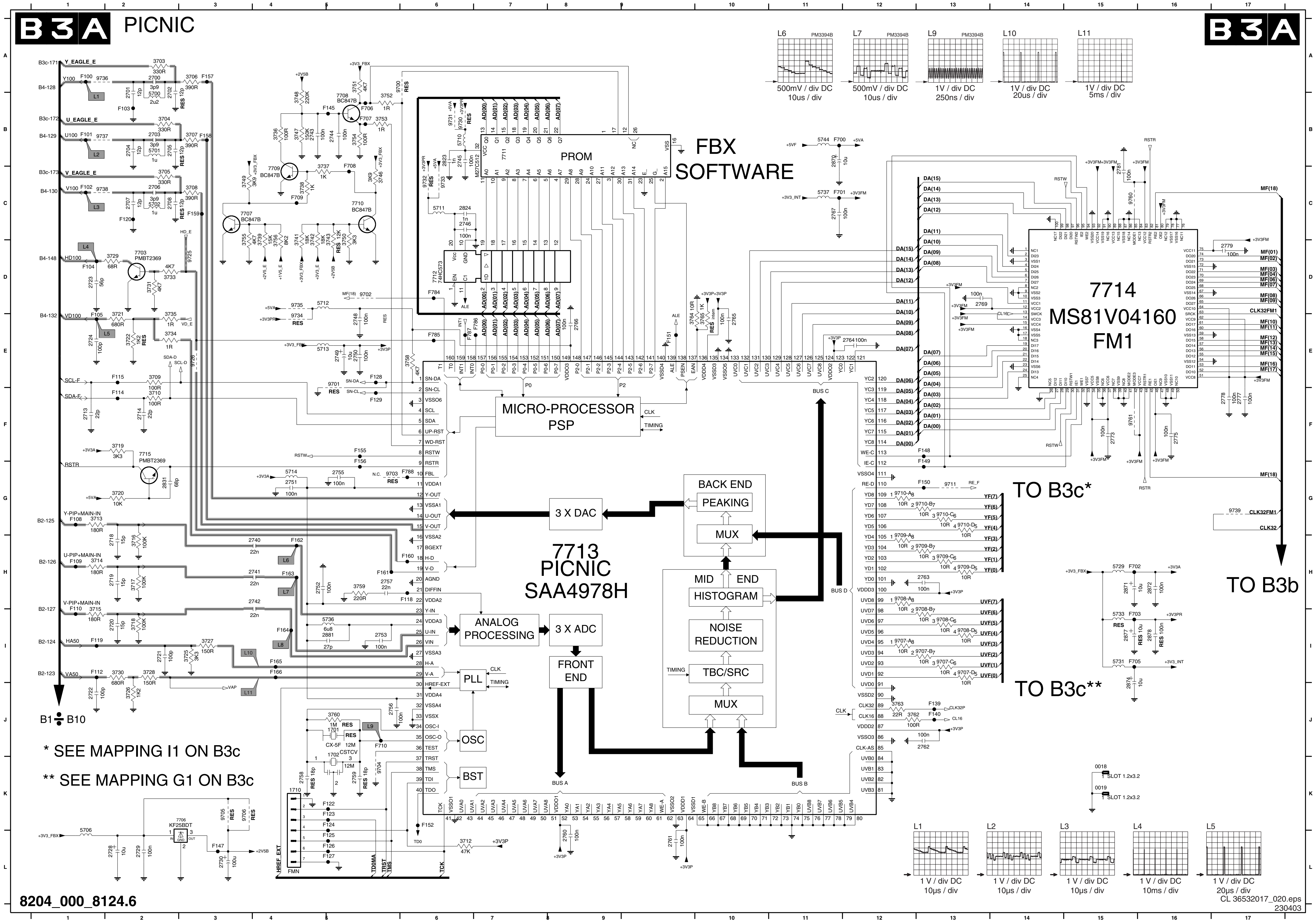
Small Signal Board: IF. I/O Video Processing

B2 IF,I/O VIDEOPROCESSING


B2
B1÷B10
HIP
7323
TDA9320H
IF DEM
SUPPLY
CTRL
SYNC
OUTP SWITCH
GROUP DELAY COR.
I/O SWITCH
LUMA & CHROMA PROC.
1409-A OFWK3953L SAW-FILTER AUDIO
1409-B OFWK3953L
1410-A OFWK9656L SAW-FILTER-VIDEO
1410-B OFWK9656L
1408-A OFWK3953L SAW-FILTER VIDEO
1408-B OFWK3953L
5CCE 5408
MODULATOR COIL
5CCE 5403
COIL 40.4 SUPPRESSION
1406 TPW
1407 TPW
1411 SFSCC
1303
7307 TDA9181
INPSEL
Y|CVBS1
Y|CVBS2
CIN
SC
CLAMP
2H/4H DELAY
ADAPTIVE COMB FILTER
SAND-CASTLE
FILTER TUNING
CLOCK GEN
Y|CVBSO
COUT
1403 F 500mA 441
+5V2
+5V2_CON
+8V
+8V_CON
+5V_VDP
+5VCOM
+8V_VDP
+8VP
+5VS
IF-TER
LMN
AGC-MONITOR
AGC
SOUND-OUTPUT
SC1-STATUS
SEL-SVHS-RR_STATUS2
BG
LMN
SCL-F
SDA-F
VA50
HA50
R-SC1_V-IN
G-SC1-IN_Y-IN
B-SC1-IN_U-IN
CVBS-3D-COMB
COUT-3D-COMB
YOUT-3D-COMB
CVBS-TXT
COUT-3D
YOUT-3D
FBL-SC1-IN
R-SC3-IN
G-SC3-IN
B-SC3-IN
FBL-SC3-IN
COMB-Y_CVBS-OUT
COMB-C-OUT
7403 BC847B
7401 BC847BW
7405 BC847BW
7406 BC847BW
7407 BC857B
7410 BC847BW
7411 BC847B
7322 BC847BW
7402 BC847BW
7320 BC847BW
7404 BC847BW
7408 BC857B
7409 BC857B
7412 BC857BW
7413 BFS20
6403 BA792
6402 1SS356
6404 1SS356
6405 1SS356
CVBS-SC1_AV1-IN
AV3-CVBS-IN
CVBS-AV3-IN
Y-CVBS-SC2_AV2-IN
C-SC2_SVHS-IN
Y-CVBS-FRONT-IN
C-FRONT-IN
PIP-OUT
CVBS-SC2_MON-OUT
CVBS-TXT
COMB-Y_CVBS-OUT
COMB-C-OUT
SYS1
SYS2
FSC
SC
CVBS-PIP_TUN1-2-CVBS-IN
CVBS-TER-OUT
QSS_AM
I5
I6
V1
V2
V5
V6
V7
V8
V9
V10
F14
L8
20mV / div AC 10us / div
1V / div DC 10us / div
1V / div DC 10us / div
1V / div DC 10us / div
1V / div DC 10us / div
500mV / div DC 20us / div
500mV / div DC 20us / div
1V / div DC 20us / div
2V / div DC 200us / div
2V / div DC 200us / div
1V / div DC 5ms / div
1V / div DC 20us / div
8204_000_8130.7
CL 36532017_019.eps
230403

1303	B13	3412
1305	E11	3414
1306	E12	3415
1307	E12	3416
1308	E13	3417
1403	A1	3418
1406	E5	3419
1407	E5	3420
1408-A	F4	3421
1408-B	G3	3423
1409-A	C4	3433
1409-B	C3	3434
1410-A	E4	3435
1410-B	E3	3436
1411	G6	3437
2302	H14	3439
2305	C11	3441
2316	C11	3444
2322	C11	3445
2327	D12	3446
2339	H8	3447
2350	A11	3448
2351	A11	3449
2352	A11	3450
2353	I12	3451
2354	G12	3452
2355	C12	3456
2356	F11	3457
2357	F11	3460
2358	F11	3461
2359	F11	3462
2360	F12	3463
2361	F13	3468
2362	F13	3473
2364	C12	3474
2365	F7	3475
2366	F8	5309
2367	F8	5310
2368	F8	5311
2369	F8	5312
2370	F8	5401
2371	B10	5402
2372	A10	5403
2373	B8	5404
2374	B8	5405
2375	B8	5406
2376	B7	5408
2377	B6	5409
2378	B7	5411
2379	F12	5415
2380	F12	5416
2381	F12	5417
2382	F12	6402
2383	D12	6403
2384	F7	6404
2385	G13	6405
2387	H9	7307
2388	A11	7320
2389	B12	7322
2390	B1	7323
2391	B3	7401
2394	B6	7402
2399	F7	7403
2401	C6	7404
2402	G7	7405
2403	C7	7406
2404	C7	7407
2405	D1	7408
2406	G2	7409
2407	G3	7410
2408	H3	7411
2409	C7	7412
2411	D6	7413
2412	C1	9318
2413	D5	9319
2417	E7	9322
2418	D7	9324
2419	D7	9401
2420	G8	9402
2421	F14	9403
2422	E13	9405
2423	F14	9406
2424	G11	9407
2425	B1	9408
2426	C13	9410
2427	C14	9412
2428	C14	9413
3301	I12	9414
3303	H10	9415
3370	F9	9416
3371	G9	9417
3372	G9	9418
3373	C12	9419
3374	C12	9420
3375	C12	F354
3376	A10	F355
3377	A10	F356
3378	B10	F400
3379	D11	F401
3380	B7	F402
3381	H8	F403
3382	F7	F404
3385	G7	F405
3389	F9	F406
3393	F11	F407
3400	B5	F408
3401	B7	F409
3402	B1	F410
3403	G7	F411
3404	I6	F412
3405	H5	F413
3406	G2	F414
3407	F2	F415
3408	B5	F416
3409	G2	F417
3410	E3	F418
3411	C2	F419

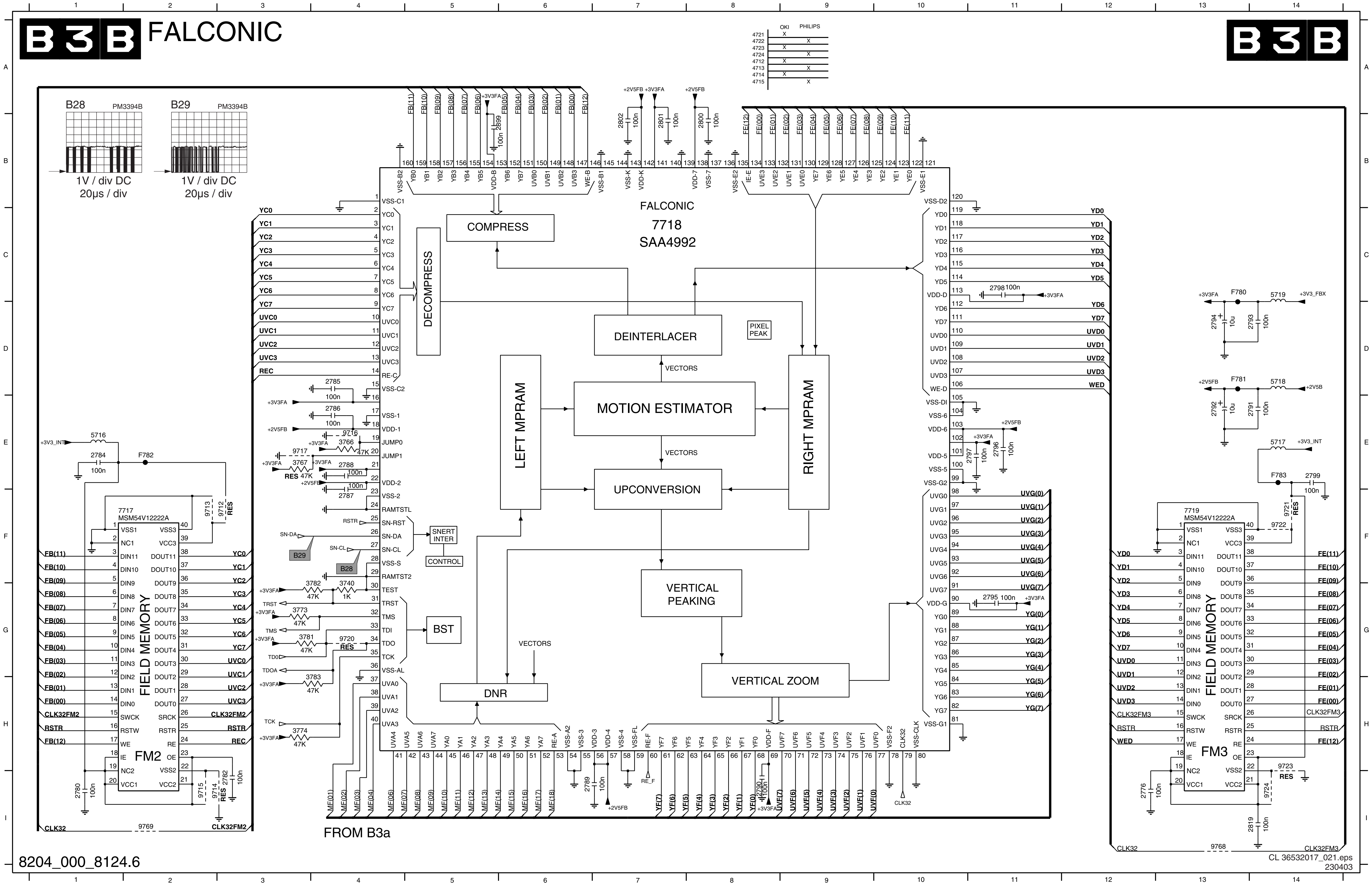
Small Signal Board: PICNIC


B3A
PICNIC
FBX SOFTWARE
PROM
M27C512
74HC573
7714
MS81V04160
FM1
7713
PICNIC
SAA4978H
MICRO-PROCESSOR
PSP
BACK END
PEAKING
MUX
3 X DAC
MID
END
HISTOGRAM
NOISE REDUCTION
TBC/SRC
MUX
ANALOG PROCESSING
3 X ADC
FRONT END
PLL
OSC
BST
BUS A
BUS B
BUS C
BUS D
TO B3c*
TO B3c**
TO B3b
B1 ÷ B10
* SEE MAPPING I1 ON B3c
** SEE MAPPING G1 ON B3c
L6 500mV / div DC 10us / div
L7 500mV / div DC 10us / div
L9 1V / div DC 250ns / div
L10 1V / div DC 20us / div
L11 1V / div DC 5ms / div
L1 1 V / div DC 10µs / div
L2 1 V / div DC 10µs / div
L3 1 V / div DC 10µs / div
L4 1 V / div DC 10ms / div
L5 1 V / div DC 20µs / div
8204_000_8124.6
CL 36532017_020.eps
230403

0018	K15
0019	K15
1701	J5
1702	K5
1710	K4
2700	A2
2701	B2
2702	B2
2703	B2
2704	B2
2705	B2
2706	C2
2707	C2
2708	C2
2713	F1
2714	F2
2718	H2
2719	H2
2720	I2
2721	I2
2722	J1
2723	D1
2724	E1
2728	L2
2729	L2
2730	L3
2740	H4
2741	H4
2742	H4
2743	B4
2744	B5
2745	B6
2746	C6
2748	E5
2749	E5
2750	E5
2751	G4
2752	H4
2753	I5
2755	G5
2756	J5
2757	H5
2758	K4
2759	K5
2760	L8
2761	L9
2762	J13
2763	H13
2764	E12
2765	E10
2766	E8
2767	C11
2769	D13
2773	F15
2775	F16
2777	F17
2778	F17
2779	D17
2781	C15
2823	B6
2824	C6
2831	G2
2870	B11
2871	H15
2872	H16
2874	J15
2877	I15
2878	I16
2881	I5
3703	A2
3704	B2
3705	C2
3706	A3
3707	B3
3708	C3
3709	E2
3710	F2
3712	L6
3713	G1
3714	H1
3715	I1
3716	H2
3717	H2
3718	I2
3719	F2
3720	G2
3721	E2
3722	E2
3725	I3
3726	J2
3727	I3
3728	I2
3729	D2
3730	I2
3731	D2
3733	D2
3734	E2
3735	E2
3736	B4
3737	C4
3738	C4
3739	C4
3741	C4
3742	C4
3743	C5
3746	C5
3747	B4
3748	B4
3749	C3
3750	C5
3751	A5
3752	B5
3753	B5
3754	B5
3755	C3
3756	D4
3758	E6
3759	H5
3760	J5
3762	J12
3763	J12
3764	E9
3765	E10
5700	B2
5701	B2
5702	C2
5706	L1
5710	B6
5711	C6
5712	D4
5713	E4
5714	G4
5729	H15
5731	I15
5733	I15
5736	I5
5737	C11
5744	B11
7703	D2
7706	K2
7707	C3
7708	B5
7709	C4
7710	C5
7711	B7
7712	D6
7713	H8
7714	D15
7715	F2
9700	A6
9701	E5
9702	D5
9703	G5
9704	K5
9705	K3
9706	K3
9707-A	I12
9707-B	I13
9707-C	I13
9707-D	I13
9708-A	H12
9708-B	I13
9708-C	I13
9708-D	I13
9709-A	H12
9709-B	H13
9709-C	H13
9709-D	H13
9710-A	G12
9710-B	G13
9710-C	G13
9710-D	G13
9711	G13
9725	D3
9726	E3
9730	B6
9731	B6
9732	C6
9733	C6
9734	E4
9735	D4
9736	A1
9737	B1
9738	C1
9739	G17
9760	C15
9761	F15
F100	A1
F101	B1
F102	C1
F103	B2
F104	D1
F105	E1
F108	G1
F109	H1
F110	I1
F112	I1
F114	F2
F115	E2
F118	H6
F119	I1
F120	C2
F122	K5
F123	K5
F124	K5
F125	L5
F126	L5
F127	L5
F128	E5
F129	F5
F139	J13
F140	J13
F145	B5
F147	L3
F148	F13
F149	G13
F150	G13
F151	E9
F152	K6
F155	F5
F156	G5
F157	A3
F158	B3
F159	C3
F160	H6
F161	H5
F162	H4
F163	H4
F164	I4
F165	I4
F166	I4
F700	B11
F701	C11
F702	H15
F703	I15
F705	I15
F706	B5
F707	B5
F708	C5
F709	C4
F710	J5
F784	D6
F785	E6
F786	E7
F787	E6
F788	G6

Small Signal Board: Diversity Tables

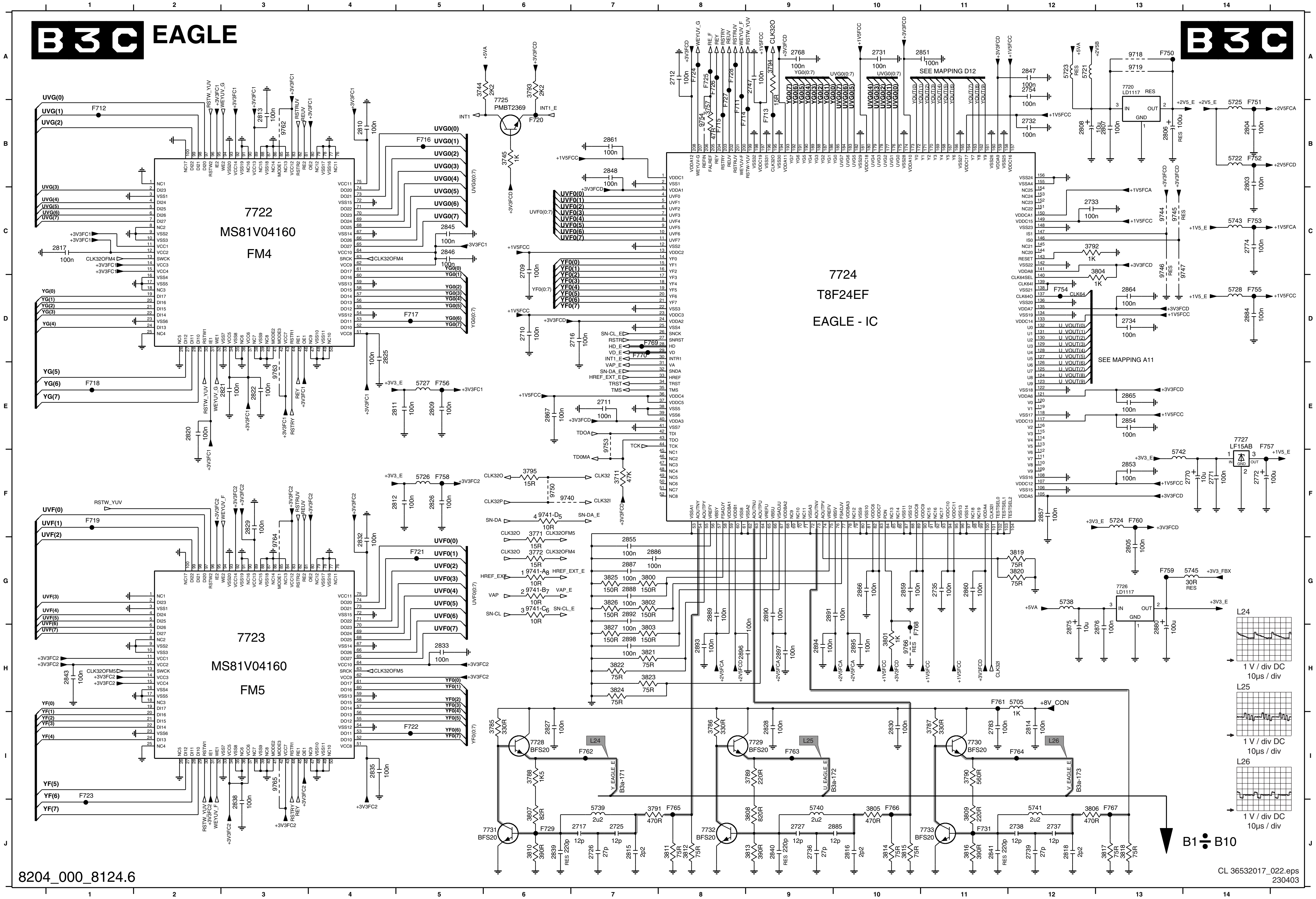
Small Signal Board: Falconic


B3B
FALCONIC
B28 PM3394B
B29 PM3394B
1V / div DC
20µs / div
1V / div DC
20µs / div
FALCONIC
7718
SAA4992
COMPRESS
DECOMPRESS
DEINTERLACER
PIXEL PEAK
VECTORS
MOTION ESTIMATOR
LEFT MPRAM
RIGHT MPRAM
UPCONVERSION
VERTICAL PEAKING
VERTICAL ZOOM
DNR
SNERT INTER
CONTROL
BST
7717
MSM54V12222A
FIELD MEMORY
FM2
7719
MSM54V12222A
FIELD MEMORY
FM3
F780
F781
F782
F783
5716
5717
5718
5719
+3V3_INT
+3V3FA
+2V5FB
+3V3_FBX
+2V5B
CLK32
CLK32FM2
CLK32FM3
9768
9769
FROM B3a
8204_000_8124.6
CL 36532017_021.eps
230403

	OKI	PHILIPS
4721	X	
4722		X
4723	X	
4724		X
4712	X	
4713		X
4714	X	
4715		X

2776	I12
2780	I1
2782	I3
2784	E1
2785	D4
2786	E4
2787	F4
2788	E4
2789	I6
2790	I8
2791	E14
2792	E13
2793	D14
2794	D13
2795	G11
2796	E11
2797	E11
2798	C11
2799	E14
2800	B8
2801	B7
2802	B7
2819	I14
2899	B5
3740	G4
3766	E4
3767	E3
3773	G3
3774	H3
3781	G3
3782	G4
3783	H4
5716	E1
5717	E14
5718	D14
5719	C14
7717	F1
7718	C7
7719	F13
9712	F3
9713	F2
9714	I2
9715	I2
9716	E4
9717	E3
9720	G4
9721	F14
9722	F14
9723	H14
9724	I14
9768	I13
9769	I2
F780	C13
F781	D13
F782	E2
F783	E14

Small Signal Board: Eagle

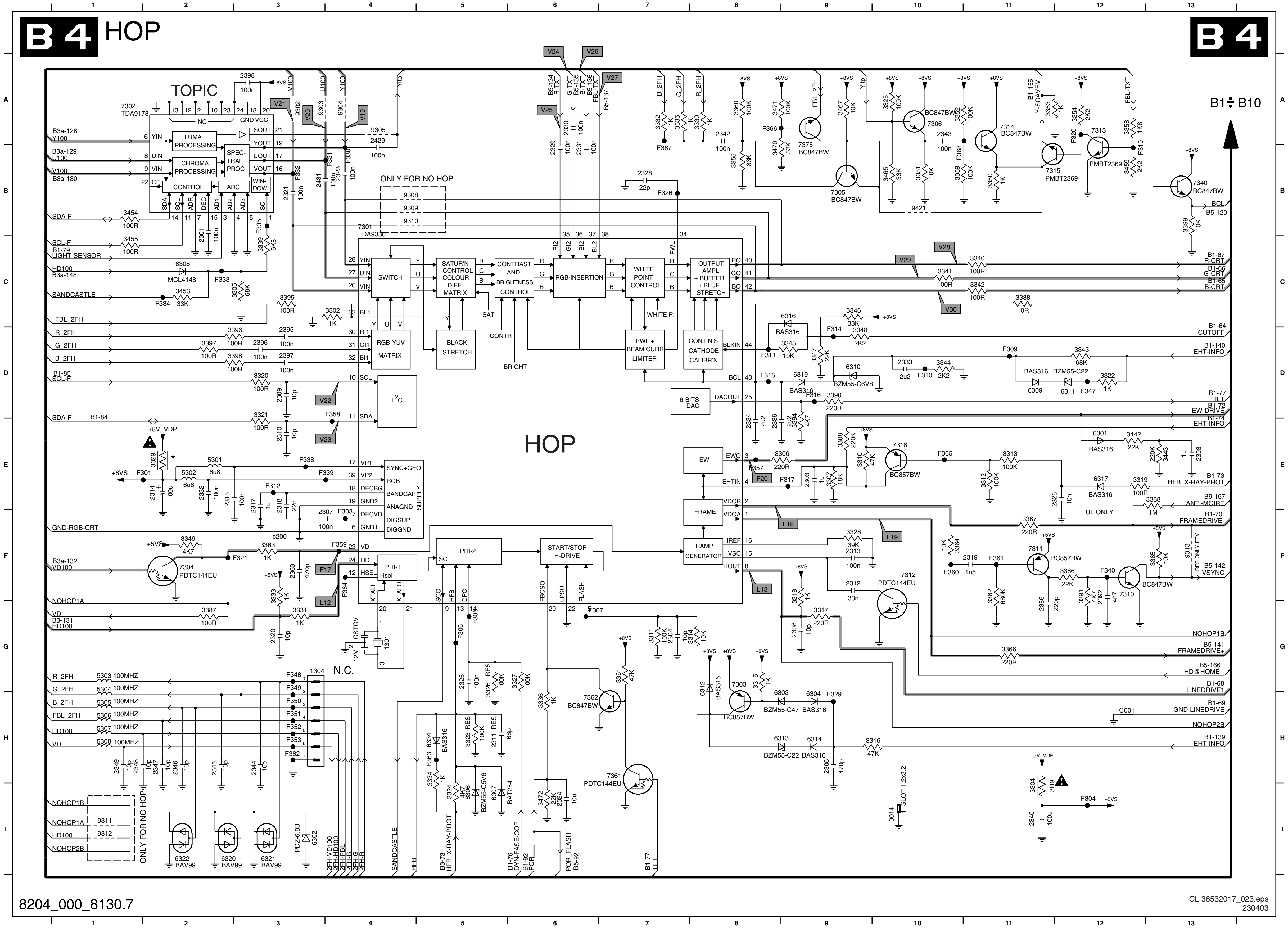

B3C
EAGLE
7722
MS81V04160
FM4
7723
MS81V04160
FM5
7724
T8F24EF
EAGLE - IC
7725
PMBT2369
7720
LD1117
7726
LD1117
7727
LF15AB
SEE MAPPING D12
SEE MAPPING A11
7728
BFS20
7729
BFS20
7730
BFS20
7731
BFS20
7732
BFS20
7733
BFS20
L24
L25
L26
1 V / div DC
10µs / div
V_EAGLE_E
U_EAGLE_E
B3a-171
B3a-172
B3a-173
B1 ÷ B10
+8V_CON
+5VA
+3V3_E
+2V5_E
+1V5_E
+3V3_FBX

8204_000_8124.6

CL 36532017_022.eps
230403

2709	C6
2710	D6
2711	E7
2712	A8
2716	D7
2717	J7
2725	J7
2726	J7
2727	J9
2731	A10
2732	B12
2733	C12
2734	D13
2735	G11
2736	J9
2737	J12
2738	J12
2739	J12
2747	A9
2754	A12
2768	A9
2770	F14
2771	F14
2772	F14
2774	C14
2783	I11
2803	B14
2804	B14
2805	G13
2806	B13
2807	B13
2808	B12
2809	E5
2810	B4
2811	E5
2812	F5
2813	B3
2814	I12
2815	J7
2816	J10
2817	C1
2818	J12
2820	E2
2821	E3
2822	E3
2825	D4
2826	F5
2827	I6
2828	I9
2829	F3
2830	I10
2832	G4
2833	H5
2835	I4
2838	J3
2839	J6
2840	J9
2841	J11
2843	H1
2845	C5
2846	C5
2847	A12
2848	B7
2851	A11
2853	F13
2854	E13
2855	G7
2857	F12
2859	G10
2860	G11
2861	B7
2864	D13
2865	E13
2866	G10
2867	E6
2875	H12
2876	H13
2880	H13
2884	D14
2885	J10
2886	G7
2887	G7
2888	G7
2889	G8
2890	G9
2891	G9
2892	G7
2893	H8
2894	H9
2895	H10
2896	H8
2897	H9
2898	H7
3711	F7
3744	A5
3745	B6
3757	B8
3771	F6
3772	G6
3785	I6
3786	I8
3787	I11
3788	I6
3789	I9
3790	I11
3791	J7
3792	C12
3793	A6
3794	A9
3795	F6
3800	G7
3801	H10
3802	G7
3803	H7
3804	C13
3805	J10
3806	J12
3807	J6
3808	J9
3809	J11
3810	J6
3811	J8
3812	J8
3813	J9
3814	J10
3815	J10
3816	J11
3817	J13
3818	J13
3819	G12
3820	G12
3821	H7
3822	H7
3823	H7
3824	H7
3825	G7
3826	G7
3827	H7
5705	H12
5721	A12
5722	B14
5723	A12
5724	F13
5725	B14
5726	F5
5727	E5
5728	D14
5738	G12
5739	J7
5740	J9
5741	J12
5742	F13
5743	C14
5745	G14
7720	A13
7722	C3
7723	H3
7724	D10
7725	B6
7726	G13
7727	E14
7728	I6
7729	I9
7730	I11
7731	J6
7732	J8
7733	J11
9718	A13
9719	A13
9740	F6
9741-A	G6
9741-B	G6
9741-C	G6
9741-D	F6
9744	C13
9745	C13
9746	C13
9747	C13
9750	F6
9753	E7
9754	B8
9762	B3
9763	E3
9764	G3
9765	I3
9766	H10
F711	B8
F712	B1
F713	B9
F714	B8
F715	B8
F716	B5
F717	D5
F718	E1
F719	F1
F720	B6
F721	G5
F722	I5
F723	I1
F724	A8
F725	A8
F726	A8
F727	B8
F728	A8
F729	J6
F731	J11
F750	A13
F751	B14
F752	B14
F753	C14
F754	D12
F755	D14
F756	E5
F757	E14
F758	F5
F759	G13
F760	F13
F761	H11
F762	I7
F763	I9
F764	I12
F765	J8
F766	J10
F767	J13
F768	H10
F769	D7
F770	D7

Small Signal Board: HOP

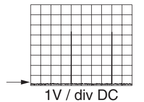

B 4
HOP
TOPIC
7302
TDA9178
LUMA PROCESSING
CHROMA PROCESSING
SPEC-TRAL PROC
CONTROL
ADC
WIN-DOW
ONLY FOR NO HOP
9308
9309
9310
7301
TDA9330
SWITCH
SATUR'N CONTROL COLOUR DIFF MATRIX
CONTRAST AND BRIGHTNESS CONTROL
RGB-INSERTION
WHITE POINT CONTROL
OUTPUT AMPL + BUFFER + BLUE STRETCH
RGB-YUV MATRIX
BLACK STRETCH
PWL + BEAM CURR LIMITER
CONTIN'S CATHODE CALIBR'N
6-BITS DAC
I²C
SYNC+GEO RGB BANDGAP ANAGND DIGSUP DIGGND
SUPPLY
EW
FRAME
RAMP GENERATOR
PHI-1 Hsel
PHI-2
START/STOP H-DRIVE
SAT
CONTR
BRIGHT
WHITE P.
B1 ÷ B10
B3a-128 Y100
B3a-129 U100
V100 B3a-130
SDA-F
SCL-F
B1-79 LIGHT-SENSOR
HD100 B3a-148
SANDCASTLE
FBL_2FH
R_2FH
G_2FH
B_2FH
B1-85 SCL-F
SDA-F B1-84
GND-RGB-CRT
B3a-132 VD100
NOHOP1A
VD B3-131 HD100
B1-67 R-CRT
B1-66 G-CRT
B1-65 B-CRT
B1-64 CUTOFF
B1-140 EHT-INFO
B1-77 TILT
B1-72 EW-DRIVE
B1-74 EHT-INFO
B1-73 HFB_X-RAY-PROT
B9-167 ANTI-MOIRE
B1-70 FRAMEDRIVE-
B5-142 VSYNC
NOHOP1B
B5-141 FRAMEDRIVE+
B5-166 HD@HOME
B1-68 LINEDRIVE1
B1-69 GND-LINEDRIVE
NOHOP2B
B1-139 EHT-INFO
BCL B5-120
UL ONLY
RES ONLY PTV
N.C.
1304
ONLY FOR NO HOP
9311
9312
HD100
NOHOP2B
SLOT 1.2x3.2
0014
SANDCASTLE
HFB
B3-73 HFB_X-RAY-PROT
B1-76 DYN-FASE-COR
B1-92 POR
POR_FLASH B5-92
B1-77 TILT
V19 V20 V21 V22 V23 V24 V25 V26 V27 V28 V29 V30
F17 F18 F19 F20 L12 L13

8204_000_8130.7

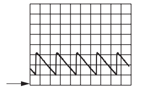
CL 36532017_023.eps
230403

0014	I10
1301	G4
1304	G3
2301	B2
2303	E9
2304	G7
2306	H9
2307	F4
2308	G9
2309	D3
2310	E3
2311	H5
2312	F9
2313	F9
2314	E2
2315	E2
2317	E3
2318	E3
2319	F11
2320	G3
2321	B3
2323	B4
2324	I6
2325	G5
2326	E12
2328	B7
2329	B6
2330	A6
2331	B6
2332	E2
2333	D10
2334	E8
2336	E8
2340	I11
2342	A8
2343	A10
2344	H3
2345	H2
2346	H2
2347	H2
2348	H1
2349	H1
2363	F3
2386	G11
2392	F12
2393	E13
2395	D3
2396	D3
2397	D3
2398	A3
2429	A4
2431	B3
3302	C4
3304	I11
3305	C3
3306	E9
3307	E9
3308	E9
3310	E9
3311	G7
3312	E11
3313	E11
3314	G8
3315	G8
3316	H10
3317	G9
3318	F9
3319	E12
3320	D3
3321	D3
3322	D12
3323	H5
3324	I5
3325	A10
3326	G5
3327	G6
3328	F9
3329	E2
3330	A8
3331	G3
3332	A7
3333	F3
3334	H5
3335	A7
3336	H6
3339	C3
3340	C11
3341	C10
3342	C11
3343	D12
3344	D10
3345	D9
3346	C9
3347	D9
3348	D9
3349	F2
3350	B11
3351	B10
3352	A10
3353	A11
3354	A12
3355	B8
3358	A12
3359	B10
3360	A8
3361	G7
3362	F11
3363	F3
3364	F10
3365	F13
3366	G11
3367	F11
3368	E13
3386	F12
3387	G2
3388	C11
3390	D9
3391	F12
3394	E9
3395	C3
3396	D3
3397	D2
3398	D3
3399	B13
3442	E12
3443	E13
3453	C2
3454	B1
3455	C1
3459	B12
3465	B10
3467	A9
3470	B8
3471	A8
3472	I6
5301	E2
5302	E2
5303	G1
5304	G1
5305	H1
5306	H1
5307	H1
5308	H1
6301	E12
6302	I3
6303	H9
6304	H9
6306	I5
6307	I5
6308	C2
6309	D11
6310	D9
6311	D12
6312	G8
6313	H9
6314	H9
6316	C9
6317	E12
6319	D9
6320	I2
6321	I3
6322	I2
6334	H5
7301	B4
7302	A1
7303	G8
7304	F2
7305	B9
7306	A10
7310	F12
7311	F11
7312	F10
7313	A12
7314	A11
7315	B12
7318	E10
7340	B13
7361	H7
7362	H6
7375	B9
9302	A3
9303	A3
9304	A4
9305	A4
9308	B4
9309	B4
9310	B4
9311	I1
9312	I1
9313	F13
9421	B10
C001	H12
F301	E2
F303	E4
F304	I12
F305	G5
F306	G5
F307	G6
F309	D11
F310	D10
F311	D8
F312	E3
F314	C9
F315	D8
F316	D9
F317	E9
F319	B12
F320	A12
F321	F3
F326	B7
F329	H9
F330	B4
F331	B4
F332	B3
F333	C2
F334	C2
F335	B3
F338	E3
F339	E4
F340	F12
F347	D12
F348	G3
F349	G3
F350	H3
F351	H3
F352	H3
F353	H3
F357	E8
F358	D4
F359	F4
F360	F10
F361	F11
F362	H3
F363	H5
F364	F4
F365	E10
F366	A8
F367	B7
F368	B10
c200	F3

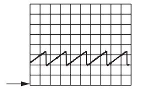
F17


1V / div DC
5ms / div

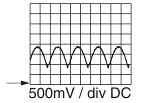
F18 PM3394B


500mV / div DC
5ms / div

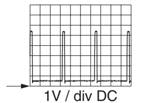
F19 PM3394B


500mV / div DC
5ms / div

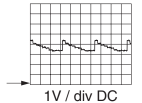
F20 PM3394B


500mV / div DC
5ms / div

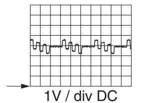
L12


1V / div DC
10us / div

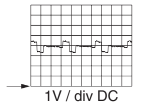
V19


1V / div DC
10us / div

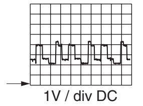
V20


1V / div DC
10us / div

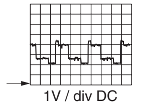
V21


1V / div DC
10us / div

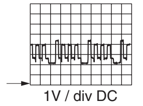
V28 PM3394B


1V / div DC
10us / div

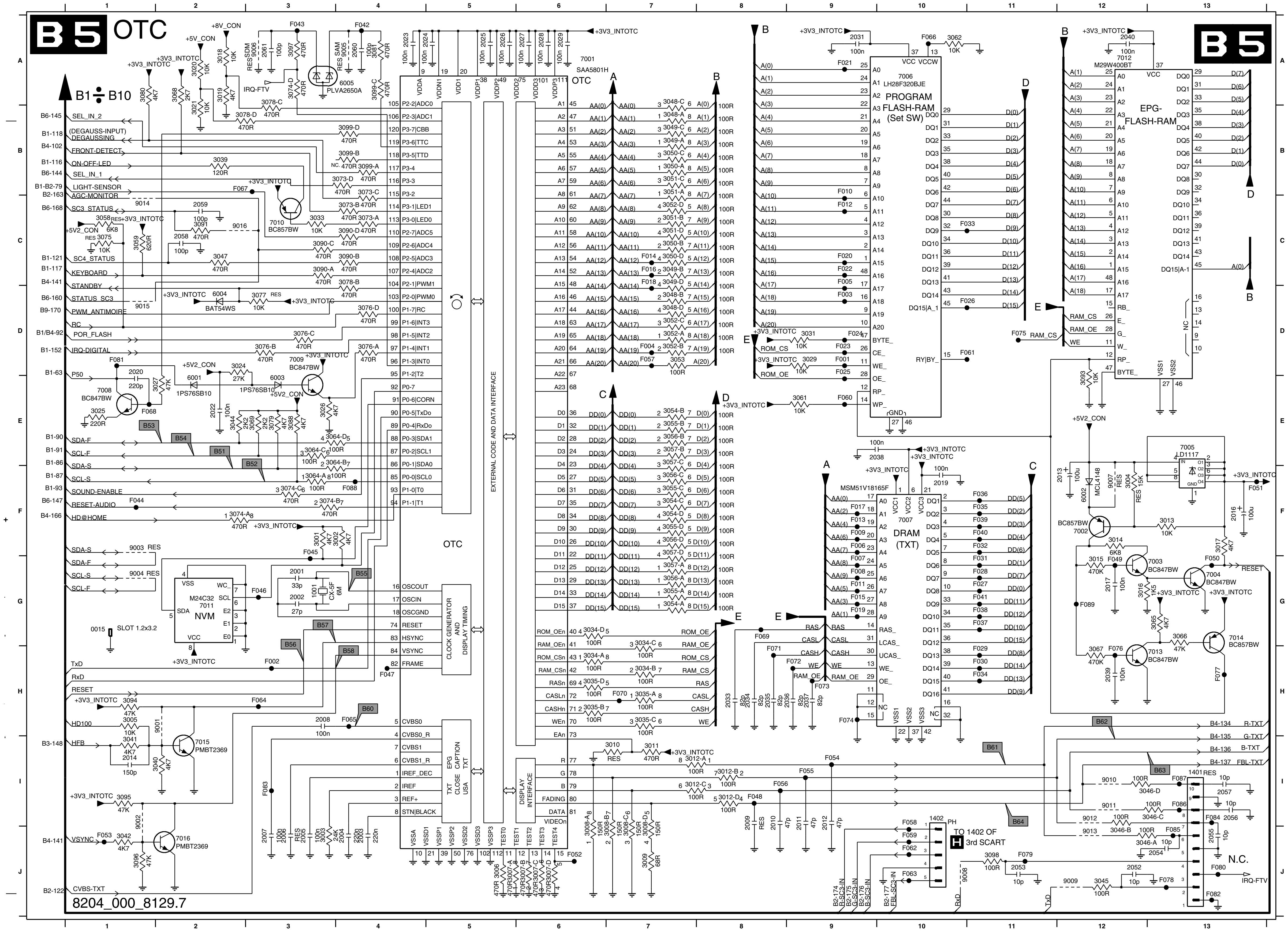
V29 PM3394B


1V / div DC
10us / div

V30 PM3394B

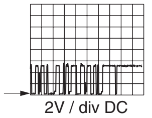

1V / div DC
10us / div

Small Signal Board: OTC

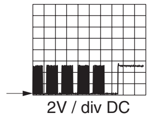

B5
OTC
B1 ÷ B10
B6-145 SEL_IN_2
B1-118 (DEGAUSS-INPUT) DEGAUSSING
B4-102 FRONT-DETECT
B1-116 ON-OFF-LED
B6-144 SEL_IN_1
B1-B2-79 LIGHT-SENSOR
B2-163 AGC-MONITOR
B6-168 SC3_STATUS
B1-121 SC4_STATUS
B1-117 KEYBOARD
B4-141 STANDBY
B6-160 STATUS_SC3
B9-170 PWM_ANTIMOIRE
RC
B1/B4-92 POR_FLASH
B1-152 IRQ-DIGITAL
B1-63 P50
B1-90 SDA-F
B1-91 SCL-F
B1-86 SDA-S
B1-87 SCL-S
B1-93 SOUND-ENABLE
B6-147 RESET-AUDIO
B4-166 HD@HOME
SDA-S
SDA-F
SCL-S
SCL-F
TxD
RxD
RESET
HD100
B3-148 HFB
B4-141 VSYNC
B2-122 CVBS-TXT
7001 SAA5801H OTC
EXTERNAL CODE AND DATA INTERFACE
CLOCK GENERATOR AND DISPLAY TIMING
EPG CLOSE CAPTION TXT USA
DISPLAY INTERFACE
7011 M24C32 NVM
7006 LH28F320BJE PROGRAM FLASH-RAM (Set SW)
7012 M29W400BT EPG-FLASH-RAM
7007 MSM51V18165F DRAM (TXT)
7005 LD1117
7008 BC847BW
7009 BC847BW
7010 BC857BW
7015 PMBT2369
7016 PMBT2369
7002 BC857BW
7003 BC847BW
7004 BC847BW
7013 BC847BW
7014 BC857BW
6005 PLVA2650A
6004 BAT54WS
1PS76SB10
1001 CX-6F 6M
0015 SLOT 1.2x3.2
1402 PH
TO 1402 OF H 3rd SCART
B4-134 R-TXT
B4-135 G-TXT
B4-136 B-TXT
B4-137 FBL-TXT
IRQ-FTV
N.C.
+3V3_INTOTC
+5V2_CON
+8V_CON
+5V_CON
B51
B52
B53
B54
B55
B56
B57
B58
B60
B61
B62
B63
B64
8204_000_8129.7

CL 36532017_024.eps
230403

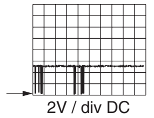
0015	G1
1001	G3
1401	I13
1402	I10
2001	G3
2002	G3
2003	J4
2004	J4
2005	J3
2006	J3
2007	J3
2008	H3
2009	I8
2010	I8
2011	I9
2012	I9
2013	F12
2014	I1
2016	F13
2017	G12
2019	F10
2020	D1
2022	E2
2023	A4
2024	A5
2025	A5
2026	A5
2027	A6
2028	A6
2029	A6
2031	A9
2033	H8
2034	H8
2035	H8
2036	H9
2037	H9
2038	E9
2039	H12
2040	A12
2052	J12
2053	J11
2054	J13
2055	J13
2056	I13
2057	I13
2058	C2
2059	C2
2060	A4
2061	A3
3001	F3
3002	F4
3003	J3
3004	F12
3005	H1
3006	J5
3007-A	J5
3007-B	J6
3007-C	J6
3007-D	J6
3008-A	I6
3008-B	I7
3008-C	I7
3008-D	I7
3009	J7
3010	I7
3011	I7
3012-A	I7
3012-B	I8
3012-C	I7
3012-D	I8
3013	F13
3014	F12
3015	G12
3016	G12
3017	F13
3018	A2
3019	A2
3020	A2
3021	B2
3024	D2
3025	E1
3026	E3
3027	E2
3029	D9
3031	D9
3033	C3
3034-A	H6
3034-B	H7
3034-C	G7
3034-D	G6
3035-A	H7
3035-B	H6
3035-C	H7
3035-D	H6
3039	B2
3040	I2
3041	I1
3042	J1
3044	E2
3045	J12
3046-A	J12
3046-B	J12
3046-C	I13
3046-D	I13
3047	C2
3048-A	B7
3048-B	D7
3048-C	A7
3048-D	D7
3049-A	B7
3049-B	C7
3049-C	B7
3049-D	C7
3050-A	B7
3050-B	C7
3050-C	B7
3050-D	C7
3051-A	B7
3051-B	C7
3051-C	B7
3051-D	C7
3052-A	D7
3052-B	D7
3052-C	D7
3052-D	C7
3053	D7
3054-A	G7
3054-B	E7
3054-C	F7
3054-D	F7
3055-A	G7
3055-B	E7
3055-C	F7
3055-D	F7
3056-A	G7
3056-B	E7
3056-C	F7
3056-D	F7
3057-A	G7
3057-B	E7
3057-C	E7
3057-D	F7
3058	C1
3059	C1
3061	E9
3062	A10
3064-A	F3
3064-B	E4
3064-C	E3
3064-D	E4
3065	G13
3066	G13
3067	H12
3068	A2
3069	E3
3073-A	C4
3073-B	C4
3073-C	B4
3073-D	B4
3074-A	F2
3074-B	F3
3074-C	F3
3074-D	A3
3075	C1
3076-A	D4
3076-B	D3
3076-C	D3
3076-D	D4
3077	D3
3078-B	C4
3078-C	A3
3078-D	B3
3079	E3
3080	A1
3081	A4
3088	E3
3090-A	C3
3090-B	C4
3090-C	C3
3090-D	C4
3091	C2
3093	E12
3094	H1
3095	I1
3096	J1
3097	A3
3098	J11
3099-A	B4
3099-B	B4
3099-C	A4
3099-D	B4
6001	E2
6002	F12
6003	E3
6004	D2
6005	A4
7001	A6
7002	F12
7003	G13
7004	G13
7005	E13
7006	A10
7007	F10
7008	E1
7009	D3
7010	C3
7011	G2
7012	A12
7013	H13
7014	G13
7015	I2
7016	J2
9001	H2
9002	I1
9003	F1
9004	G1
9005	A4
9006	A3
9007	F12
9008	J10
9009	J12
9010	I12
9011	I12
9012	I12
9013	J12
9014	C1
9015	D1
9016	C2
F001	D9
F002	H3
F003	D9
F004	D7
F005	C9
F006	F9
F007	G9
F008	G9
F009	F9
F010	B9
F011	G9
F012	C9
F013	F9
F014	C7
F015	G9
F016	C7
F017	F9
F018	C7
F019	G9
F020	C9
F021	A9
F022	C9
F023	D9
F024	D9
F025	D9
F026	D11
F027	G11
F028	G11
F029	H11
F030	H11
F031	G11
F032	F11
F033	C11
F034	H11
F035	F11
F036	F11
F037	G11
F038	G11
F039	F11
F040	F11
F041	G11
F042	A4
F043	A3
F044	F1
F045	F3
F046	G3
F047	H4
F048	I8
F049	G12
F050	G13
F051	F13
F052	J6
F053	J1
F054	I9
F055	I9
F056	I8
F057	D7
F058	I10
F059	J10
F060	E9
F061	D11
F062	J10
F063	J10
F064	H3
F065	H4
F066	A10
F067	B3
F068	E1
F069	G8
F070	H7
F071	H8
F072	H9
F073	H9
F074	H9
F075	D11
F076	H12
F077	H13
F078	J13
F079	J11
F080	J13
F081	D1
F082	J13
F083	I3
F084	I13
F085	J13
F086	I13
F087	I13
F088	F4
F089	G12

B51


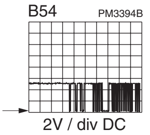
2V / div DC
100us / div

B52


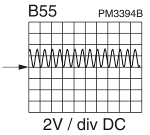
2V / div DC
100us / div

B53


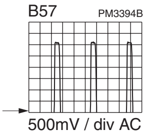
2V / div DC
5ms / div

B54


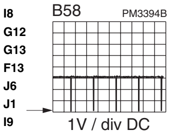
2V / div DC
5ms / div

B55


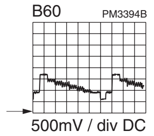
2V / div DC
250ns / div

B57


500mV / div AC
10us / div

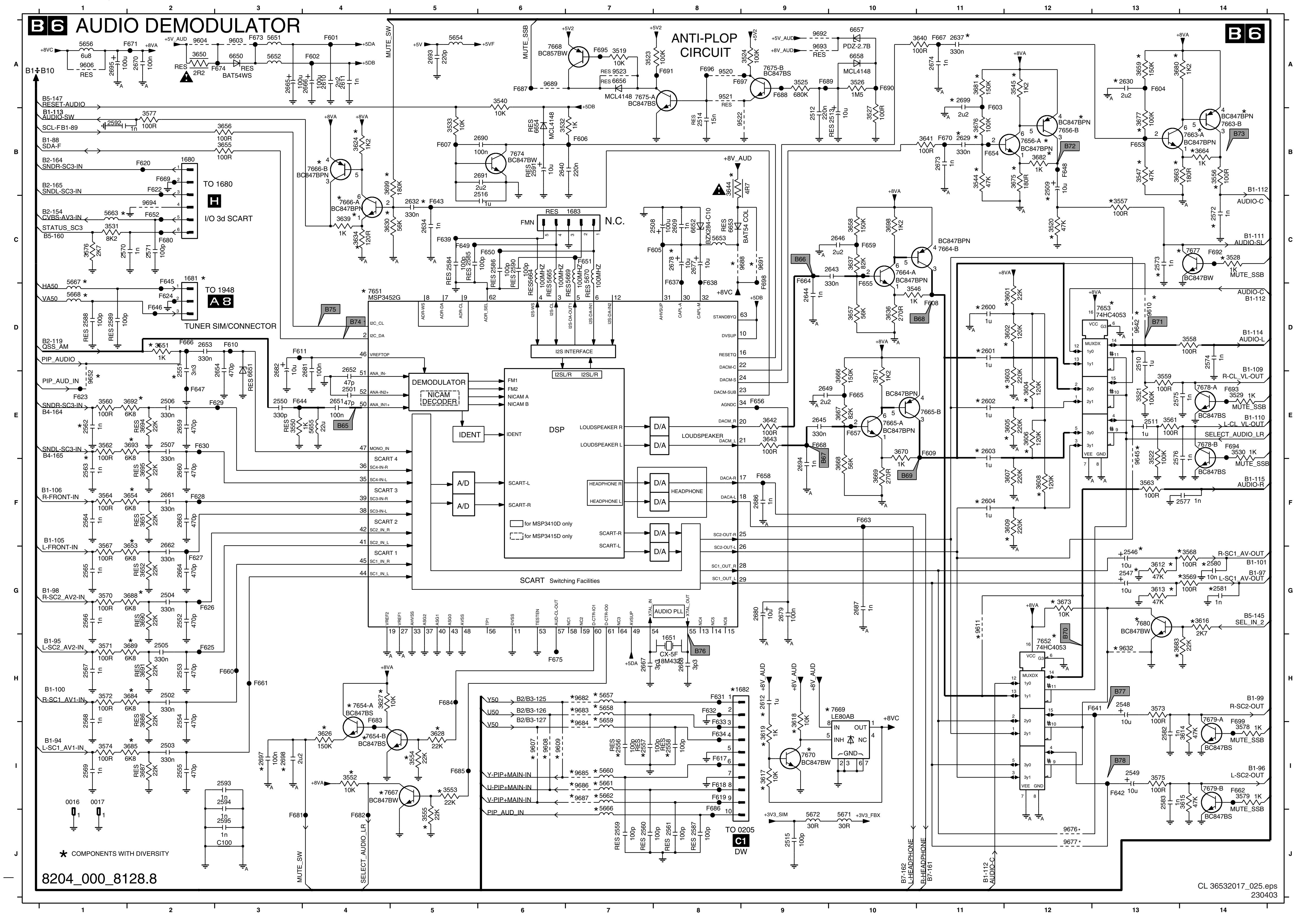
B58


1V / div DC
5ms / div

B60


500mV / div DC
10us / div

Small Signal Board: Audio Demodulator


B6 AUDIO DEMODULATOR
B6
ANTI-PLOP CIRCUIT
B1÷B10
B5-147 RESET-AUDIO
B1-113 AUDIO-SW
SCL-F B1-89
B1-88 SDA-F
B2-164 SNDR-SC3-IN
B2-165 SNDL-SC3-IN
B2-154 CVBS-AV3-IN
STATUS_SC3 B5-160
TO 1680
H
I/O 3d SCART
HA50
VA50
TO 1948
A8
TUNER SIM/CONNECTOR
B2-119 QSS_AM
PIP_AUDIO
PIP_AUD_IN
SNDR-SC3-IN B4-164
SNDL-SC3-IN B4-165
B1-106 R-FRONT-IN
B1-105 L-FRONT-IN
B1-98 R-SC2_AV2-IN
B1-95 L-SC2_AV2-IN
B1-100 R-SC1_AV1-IN
B1-94 L-SC1_AV1-IN
MUTE_SW
MUTE_SSB
SELECT_AUDIO_LR
N.C.
FMN
7651 MSP3452G
DEMODULATOR
NICAM DECODER
IDENT
DSP
I2S INTERFACE
A/D
D/A
LOUDSPEAKER
HEADPHONE
SCART 1
SCART 2
SCART 3
SCART 4
SCART Switching Facilities
for MSP3410D only
for MSP3415D only
AUDIO PLL
CX-5F 18M432
TO 0205
C1
DW
LE80AB
Y50
U50
V50
Y-PIP+MAIN-IN
U-PIP+MAIN-IN
V-PIP+MAIN-IN
PIP_AUD_IN
B7-162 L-HEADPHONE
R-HEADPHONE B7-161
B1-112 AUDIO-C
B1-111 AUDIO-SL
AUDIO-C B1-112
MUTE_SSB
B1-114 AUDIO-L
B1-109 R-CL_VL-OUT
B1-110 L-CL_VL-OUT
SELECT_AUDIO_LR
B1-115 AUDIO-R
R-SC1_AV-OUT B1-101
B1-97 L-SC1_AV-OUT
B5-145 SEL_IN_2
B1-99 R-SC2-OUT
B1-96 L-SC2-OUT
7653 74HC4053
7652 74HC4053
B65
B66
B67
B68
B69
B70
B71
B72
B73
B74
B75
B76
B77
B78
★ COMPONENTS WITH DIVERSITY
8204_000_8128.8
CL 36532017_025.eps
230403

0016	I1	3527	B10	5672	J9	F675	H6
0017	I1	3528	C14	6650	A3	F680	C2
1651	H8	3529	E14	6651	D3	F681	J3
1680	B2	3530	E14	6652	C8	F682	J4
1681	C2	3531	C1	6653	C8	F683	I4
1682	H8	3532	B6	6654	B6	F684	H5
1683	C7	3533	B5	6656	A7	F685	I5
2501	E4	3540	A6	6657	A10	F686	J8
2502	H2	3544	B11	6658	A10	F687	A6
2503	I2	3545	A12	7651	D4	F688	A9
2504	G2	3546	D10	7652	H12	F689	A9
2505	H2	3547	B13	7653	D13	F690	A10
2506	E2	3550	E3	7654-A	H4	F691	A8
2507	E2	3551	D2	7654-B	I4	F692	C14
2508	C8	3552	I4	7656-A	B12	F693	E14
2509	B12	3553	I5	7656-B	B12	F694	E14
2510	D13	3554	I5	7663-A	B14	F695	A7
2511	E13	3555	J5	7663-B	B14	F696	A8
2512	B9	3556	B14	7664-A	C10	F697	A8
2513	B10	3557	C13	7664-B	C11	F698	C9
2514	B8	3558	D14	7665-A	E10	F699	I14
2515	J9	3559	E13	7665-B	E11		
2516	C6	3560	E1	7666-A	C4		
2546	G13	3561	E13	7666-B	B4		
2547	G13	3562	E1	7667	I5		
2548	H13	3563	F13	7668	A6		
2549	I13	3564	F1	7669	H10		
2550	E3	3567	G1	7670	I9		
2551	D2	3568	G14	7674	B6		
2552	G2	3569	G14	7675-A	A8		
2553	H2	3570	G1	7675-B	A9		
2554	H2	3571	H1	7677	C14		
2555	I2	3572	H1	7678-A	E14		
2556	I7	3573	H13	7678-B	E14		
2557	I7	3574	I1	7679-A	H14		
2558	I8	3575	I13	7679-B	I14		
2559	J7	3576	C1	7680	G13		
2560	J7	3577	B2	9520	A8		
2561	J8	3578	I14	9521	A8		
2562	E1	3579	I14	9522	B9		
2563	F1	3601	D12	9523	A7		
2564	F1	3602	D12	9603	A3		
2565	G1	3603	E12	9604	A2		
2566	G1	3604	E12	9606	A1		
2567	H1	3605	E12	9607	I6		
2568	H1	3606	E12	9608	I6		
2569	I1	3607	F12	9609	I6		
2570	C1	3608	F12	9610	D13		
2571	C2	3609	F12	9611	G11		
2572	C14	3612	G13	9632	H13		
2573	C13	3613	G13	9642	D13		
2574	D14	3614	I14	9645	E13		
2575	E13	3615	I14	9652	E1		
2576	E13	3616	G14	9676	J12		
2577	F14	3617	I9	9677	J12		
2580	G14	3618	H9	9682	H7		
2581	G14	3619	I9	9683	H7		
2582	I13	3624	B4	9684	I7		
2583	I13	3626	I4	9685	I7		
2584	C5	3627	H4	9686	I7		
2585	C5	3628	I5	9687	I7		
2586	C6	3630	C4	9688	C8		
2587	J8	3634	C4	9689	A6		
2588	D1	3636	D10	9691	C9		
2589	D1	3637	C10	9692	A9		
2590	C6	3639	C4	9693	A9		
2591	B6	3640	A11	9694	C2		
2592	B1	3641	B11	C100	J3		
2593	I3	3642	E9	F601	A4		
2594	I3	3643	E9	F602	A4		
2595	J3	3644	B8	F603	B11		
2600	D11	3650	A2	F604	A13		
2601	D11	3651	F2	F605	C8		
2602	E11	3652	G2	F606	B7		
2603	E11	3653	G2	F607	B5		
2604	F11	3654	F2	F608	D11		
2609	C8	3655	B3	F609	E11		
2610	A4	3656	B3	F610	D3		
2611	A4	3657	D10	F611	D3		
2612	H9	3658	C10	F617	I8		
2629	B11	3659	A13	F618	I8		
2630	A13	3663	B13	F619	I8		
2632	C5	3664	B14	F620	B2		
2634	C5	3666	E10	F622	B2		
2637	A11	3667	E10	F623	E1		
2640	B6	3668	F10	F624	D2		
2643	C10	3669	F10	F625	H2		
2644	D9	3670	E10	F626	G2		
2645	E9	3671	E10	F627	G2		
2646	C10	3673	G12	F628	F2		
2649	E9	3675	B12	F629	E3		
2651	E4	3676	B11	F630	E2		
2652	E4	3677	B13	F631	H8		
2653	D2	3680	A13	F632	H8		
2654	D3	3681	A11	F633	I8		
2659	E2	3682	B12	F634	I8		
2660	F2	3683	H13	F637	C8		
2661	F2	3684	H2	F638	C8		
2662	G2	3685	I2	F639	C5		
2663	F2	3686	H2	F641	H13		
2664	G2	3687	I2	F642	I13		
2665	A3	3688	G2	F643	C5		
2666	A4	3689	H2	F644	E3		
2667	H7	3690	G2	F645	D2		
2668	H8	3691	H2	F646	D2		
2670	A2	3692	E2	F647	E2		
2673	B11	3693	E2	F648	B12		
2674	A11	3694	E2	F649	C5		
2677	C8	3695	F2	F650	C6		
2678	C8	3698	C10	F651	C7		
2679	G9	3699	B4	F652	C2		
2680	G9	5651	A3	F653	B13		
2681	D4	5652	A3	F654	B11		
2682	D3	5653	C8	F655	D10		
2686	F9	5654	A5	F656	E9		
2687	G10	5655	E4	F657	E10		
2690	B6	5656	A1	F658	F9		
2691	B6	5657	H7	F659	C10		
2693	A5	5658	H7	F660	H3		
2694	F9	5659	I7	F661	H3		
2695	A1	5660	I7	F662	I14		
2697	I3	5661	I7	F663	F10		
2698	I3	5662	I7	F664	C9		
2699	A11	5663	C1	F665	E10		
3519	A7	5664	C6	F666	D2		
3520	C12	5665	C6	F667	A11		
3521	E13	5666	J7	F668	E9		
3522	E13	5667	D1	F669	B2		
3523	A7	5668	D1	F670	B11		
3524	A9	5669	C7	F671	A2		
3525	A9	5670	C7	F673	A3		
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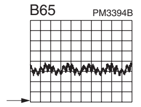
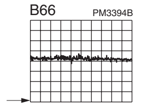
B65



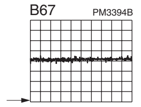
500mV / div DC
2us / div

B66



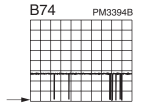
50mV / div DC
50us / div

B67



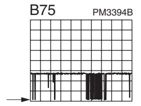
50mV / div DC
50us / div

B74



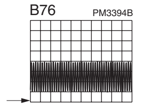
2V / div DC
20ms / div

B75



2V / div DC
20ms / div

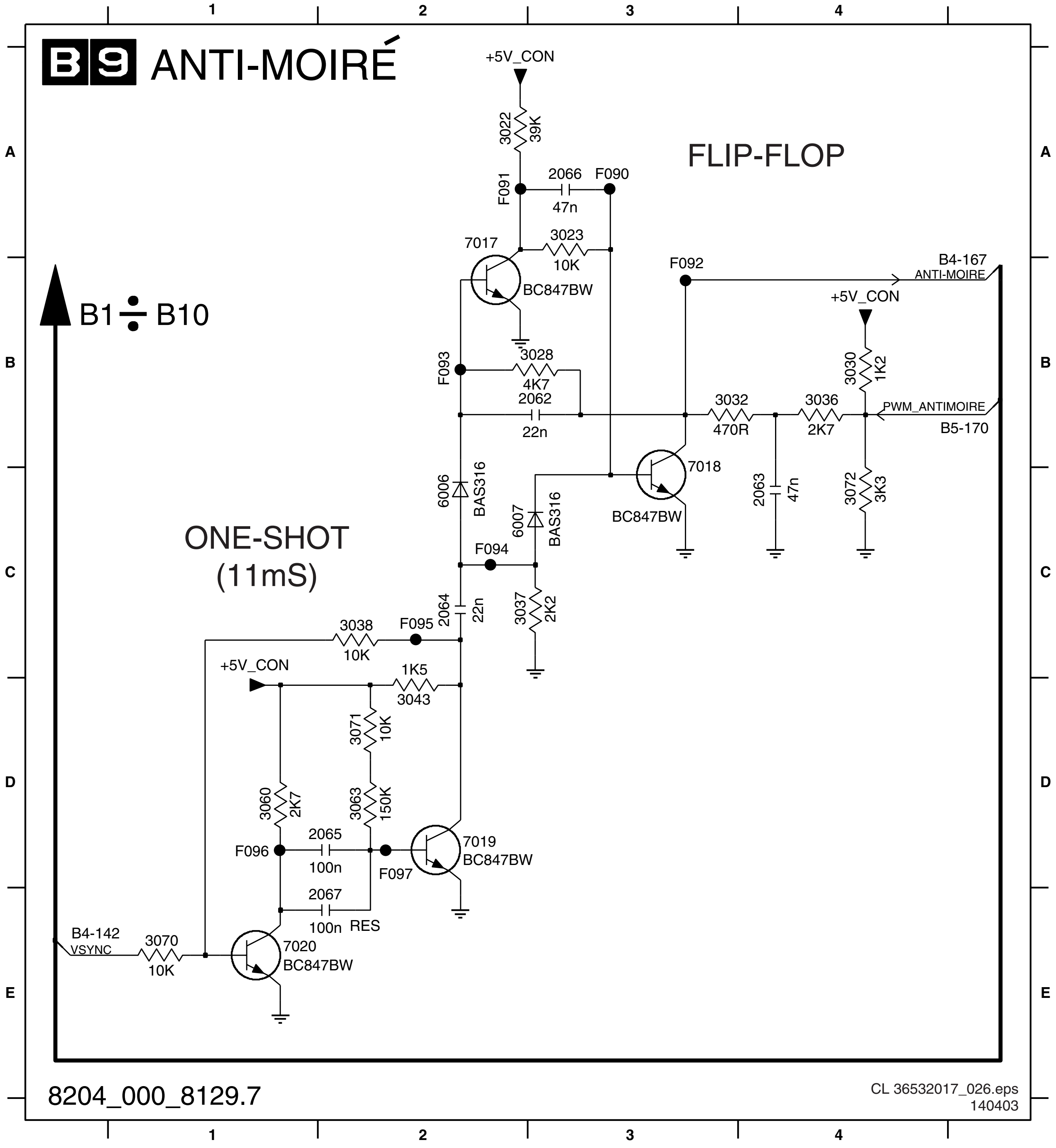
B76



1V / div DC
250ns / div

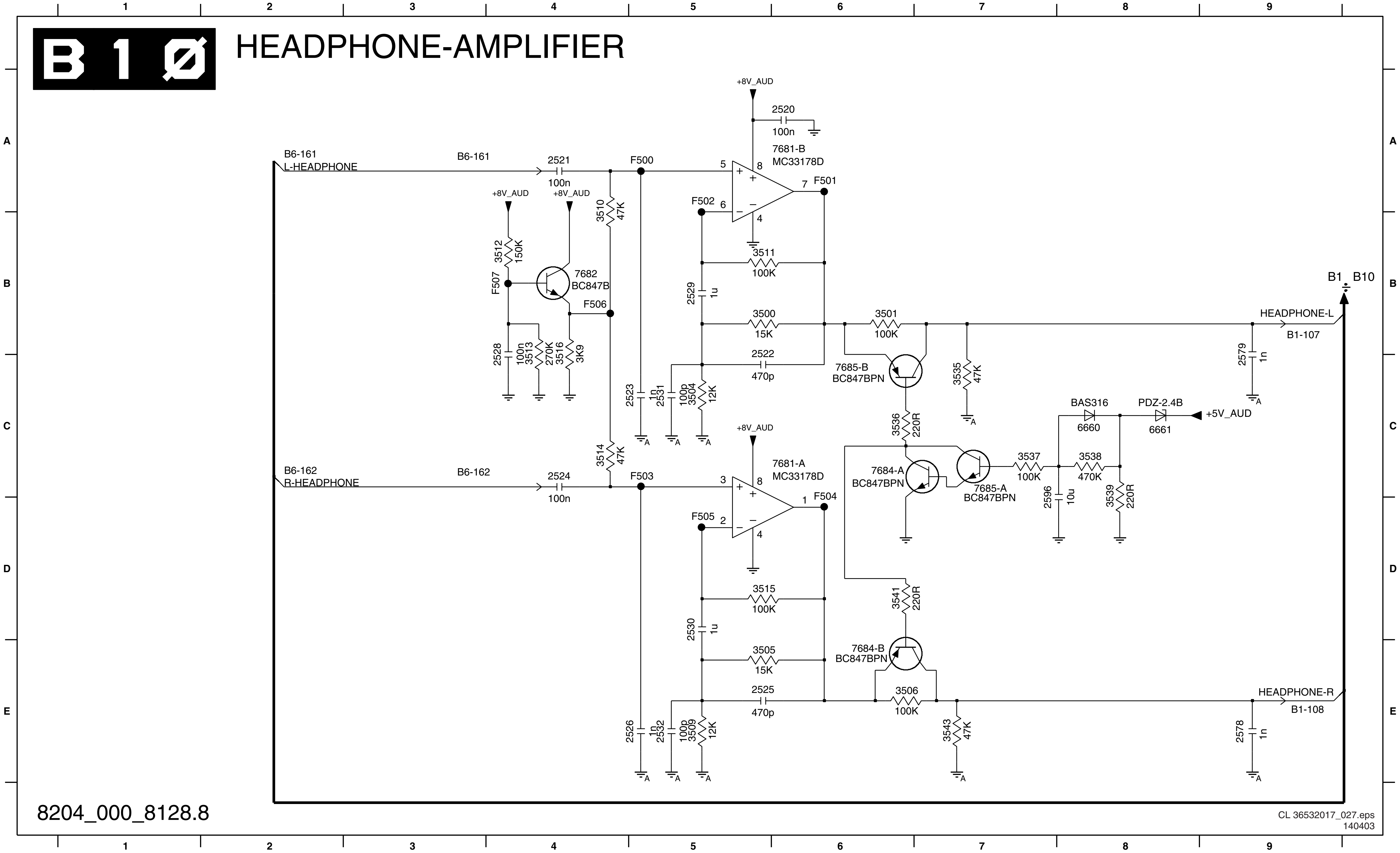
Small Signal Board: Anti-moiré

2062 B3	2065 D2	3022 A2	3030 B4	3037 C2	3060 D1	3071 D2	6007 C2	7019 D2	F091 A2	F094 C2	F097 D2
2063 C4	2066 A3	3023 A3	3032 B3	3038 C2	3063 D2	3072 C4	7017 A2	7020 E1	F092 B3	F095 C2	
2064 C2	2067 E2	3028 B3	3036 B4	3043 D2	3070 E1	6006 C2	7018 C3	F090 A3	F093 B2	F096 D1	


1
2
3
4
A
B
C
D
E
B9 ANTI-MOIRÉ
+5V_CON
3022
39K
F091
2066
47n
F090
FLIP-FLOP
7017
3023
10K
BC847BW
F092
B4-167
ANTI-MOIRE
+5V_CON
B1 ÷ B10
F093
3028
4K7
2062
22n
3030
1K2
3032
470R
3036
2K7
PWM_ANTIMOIRE
B5-170
6006
BAS316
7018
6007
BAS316
BC847BW
2063
47n
3072
3K3
ONE-SHOT
(11mS)
F094
2064
22n
3037
2K2
3038
10K
F095
+5V_CON
1K5
3043
3071
10K
3060
2K7
3063
150K
F096
2065
100n
F097
7019
BC847BW
2067
100n
RES
B4-142
VSYNC
3070
10K
7020
BC847BW
8204_000_8129.7
CL 36532017_026.eps
140403

Personal Notes:

Small Signal Board: Headphone Amplifier


B10
HEADPHONE-AMPLIFIER
1
2
3
4
5
6
7
8
9
A
B
C
D
E
+8V_AUD
2520
100n
7681-B
MC33178D
B6-161
L-HEADPHONE
B6-161
2521
100n
F500
5
8
7
F501
F502
6
4
+8V_AUD
+8V_AUD
3510
47K
3511
100K
3512
150K
F507
7682
BC847B
F506
2529
1u
3500
15K
3501
100K
HEADPHONE-L
B1-107
B1
B10
2528
100n
3513
270K
3516
3K9
2522
470p
7685-B
BC847BPN
3535
47K
2579
1n
2523
1n
2531
100p
3504
12K
BAS316
6660
PDZ-2.4B
6661
+5V_AUD
3536
220R
+8V_AUD
3514
47K
7681-A
MC33178D
B6-162
R-HEADPHONE
B6-162
2524
100n
F503
3
8
1
F504
F505
2
4
7684-A
BC847BPN
7685-A
BC847BPN
3537
100K
3538
470K
2596
10u
3539
220R
3515
100K
2530
1u
3541
220R
3505
15K
7684-B
BC847BPN
2525
470p
3506
100K
HEADPHONE-R
B1-108
2526
1n
2532
100p
3509
12K
3543
47K
2578
1n
A
8204_000_8128.8
CL 36532017_027.eps
140403

2520	A6
2521	A4
2522	C5
2523	C5
2524	C4
2525	E5
2526	E5
2528	B4
2529	B5
2530	D5
2531	C5
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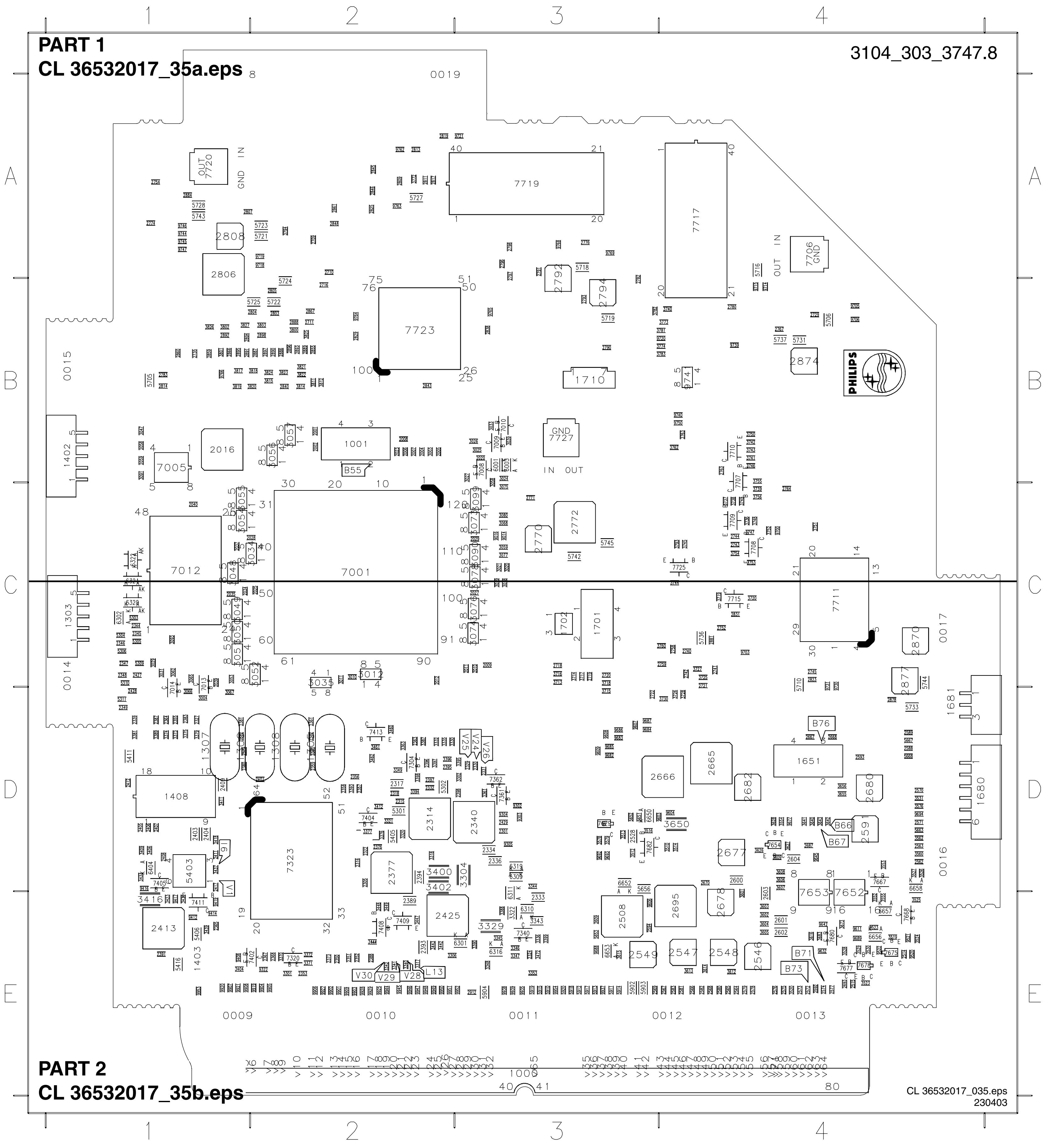
Layout Small Signal Board (Overview Top Side)



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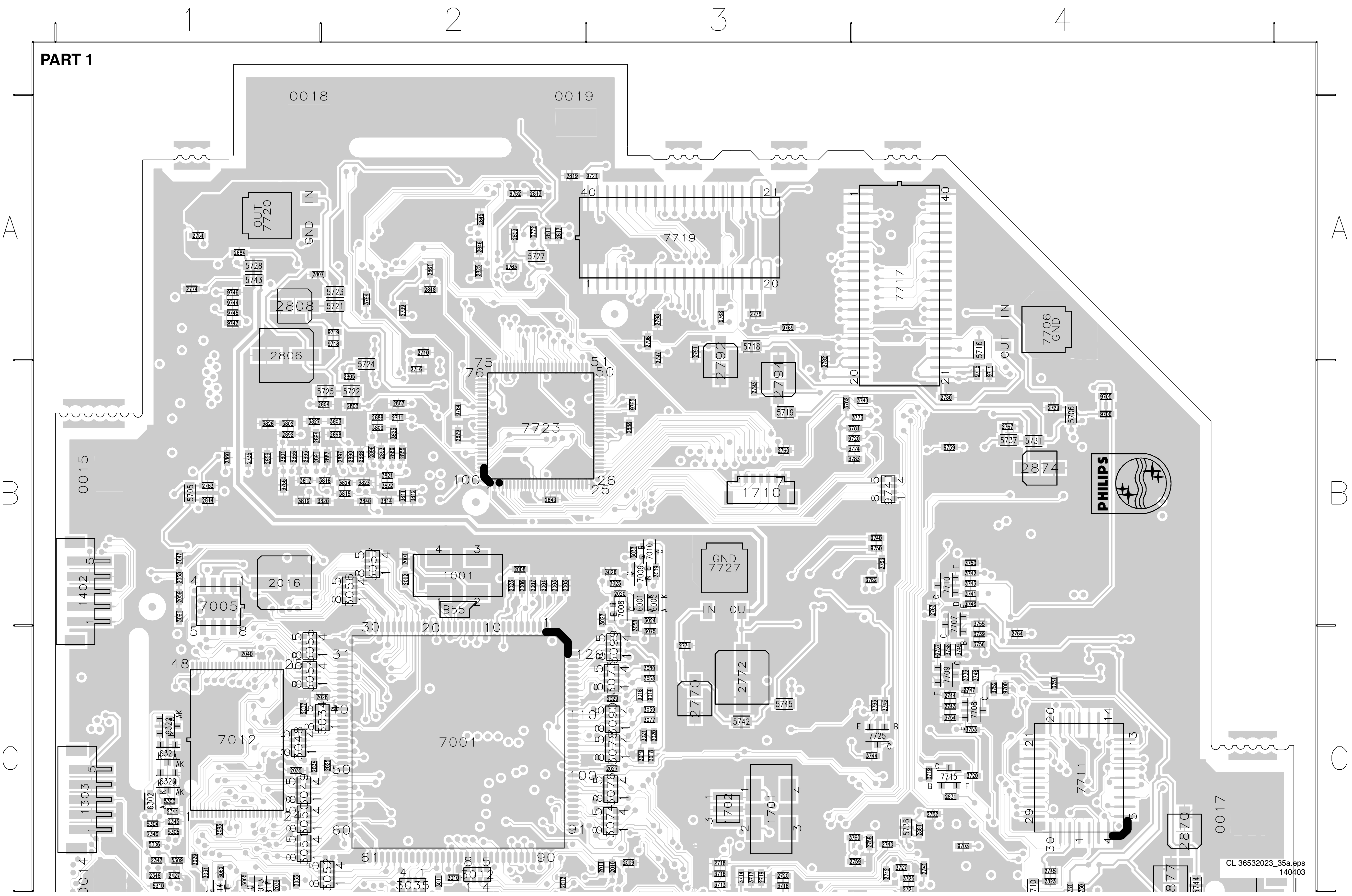
Layout Small Signal Board (Part 1 Top Side)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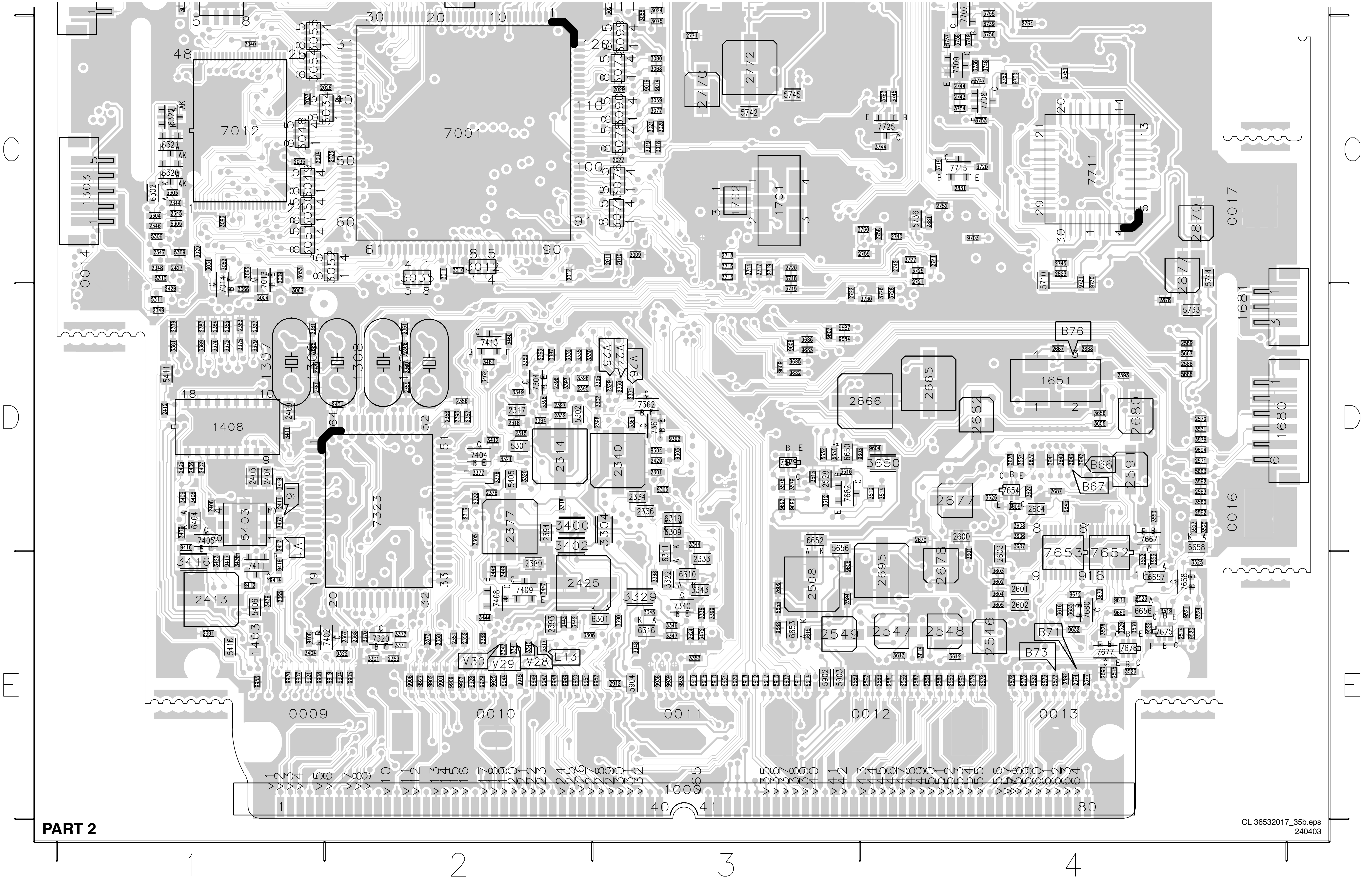
Layout Small Signal Board (Part 2 Top Side)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PART 2

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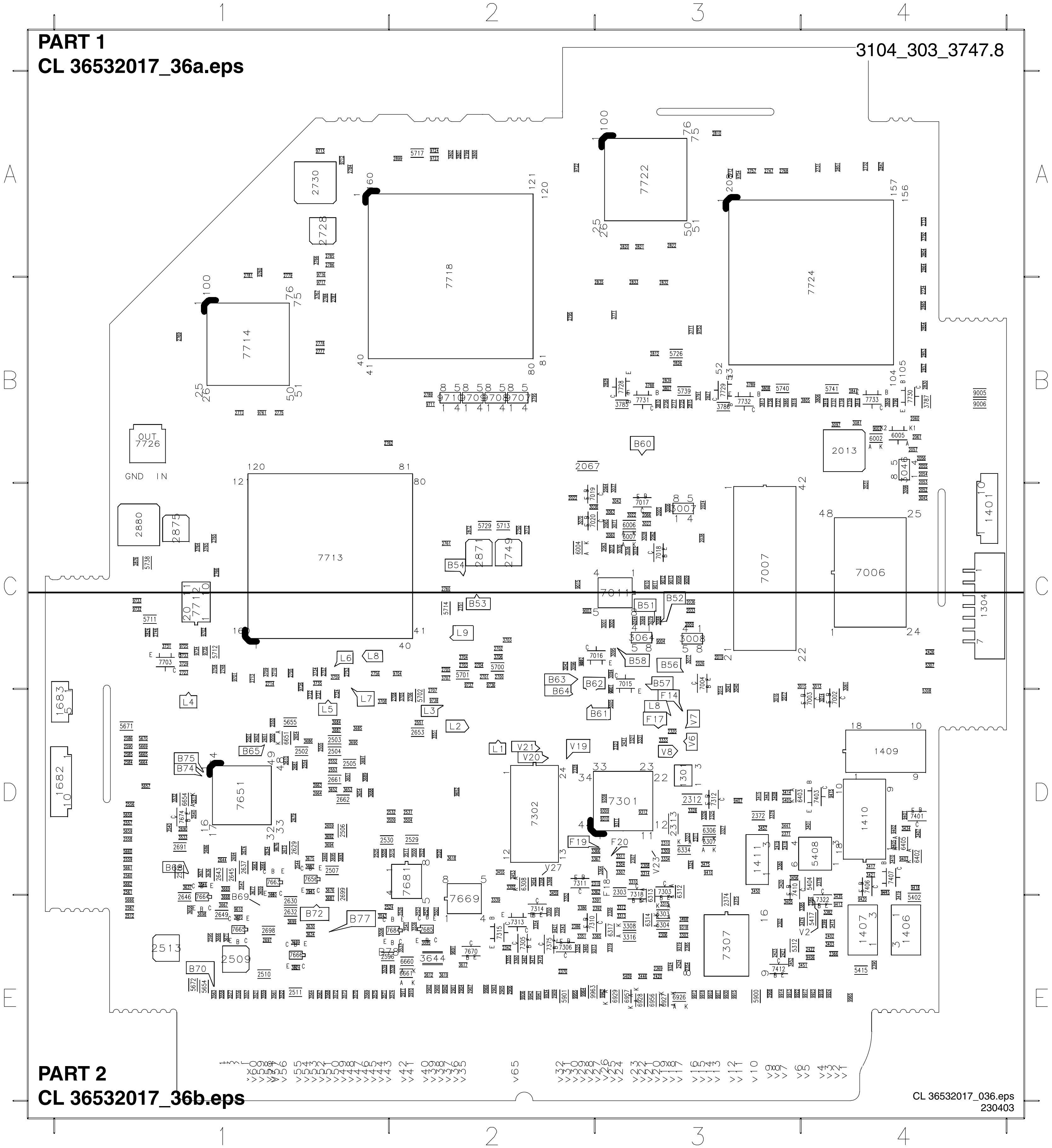
Layout Small Signal Board (Overview Bottom Side)



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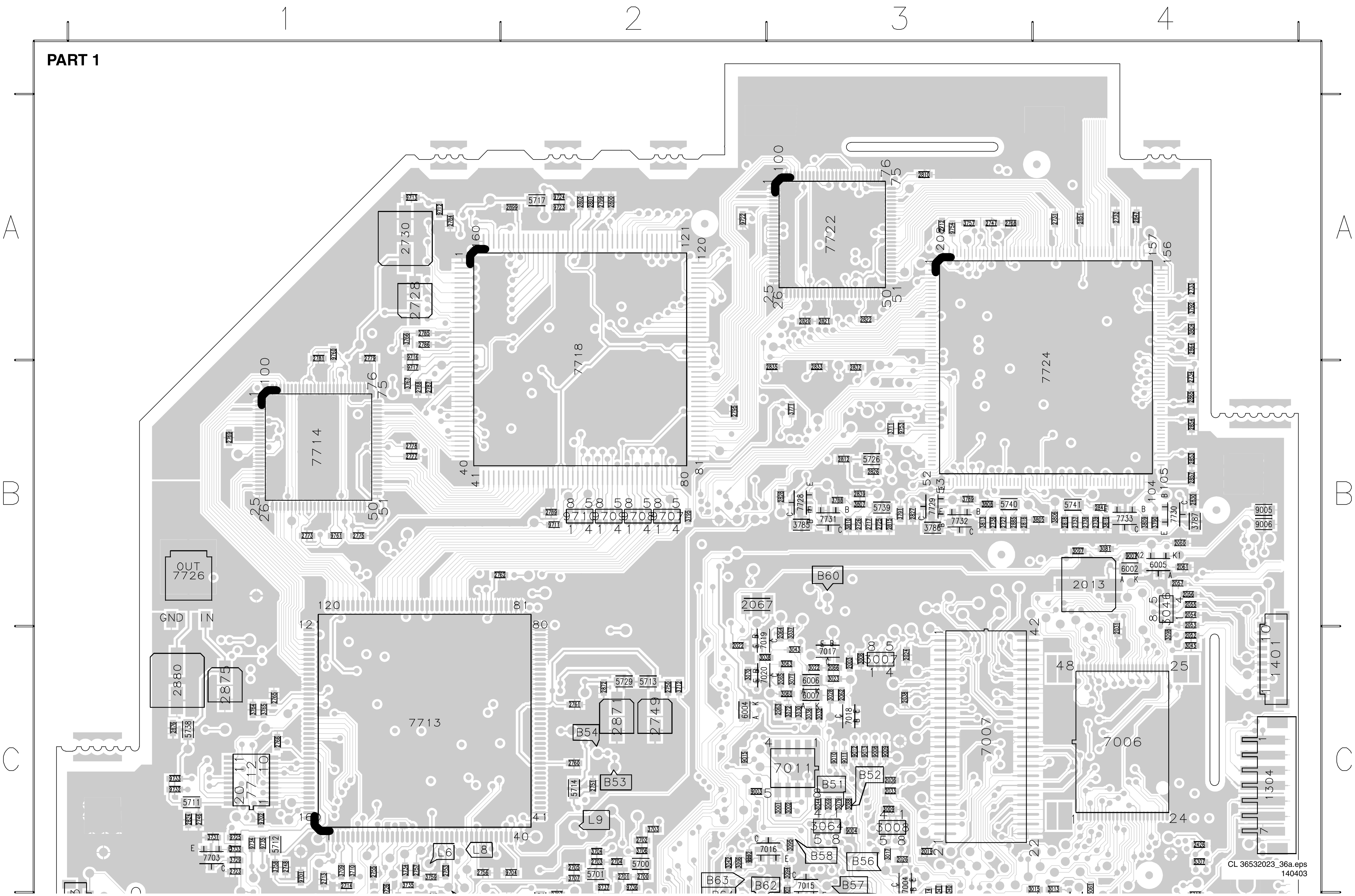
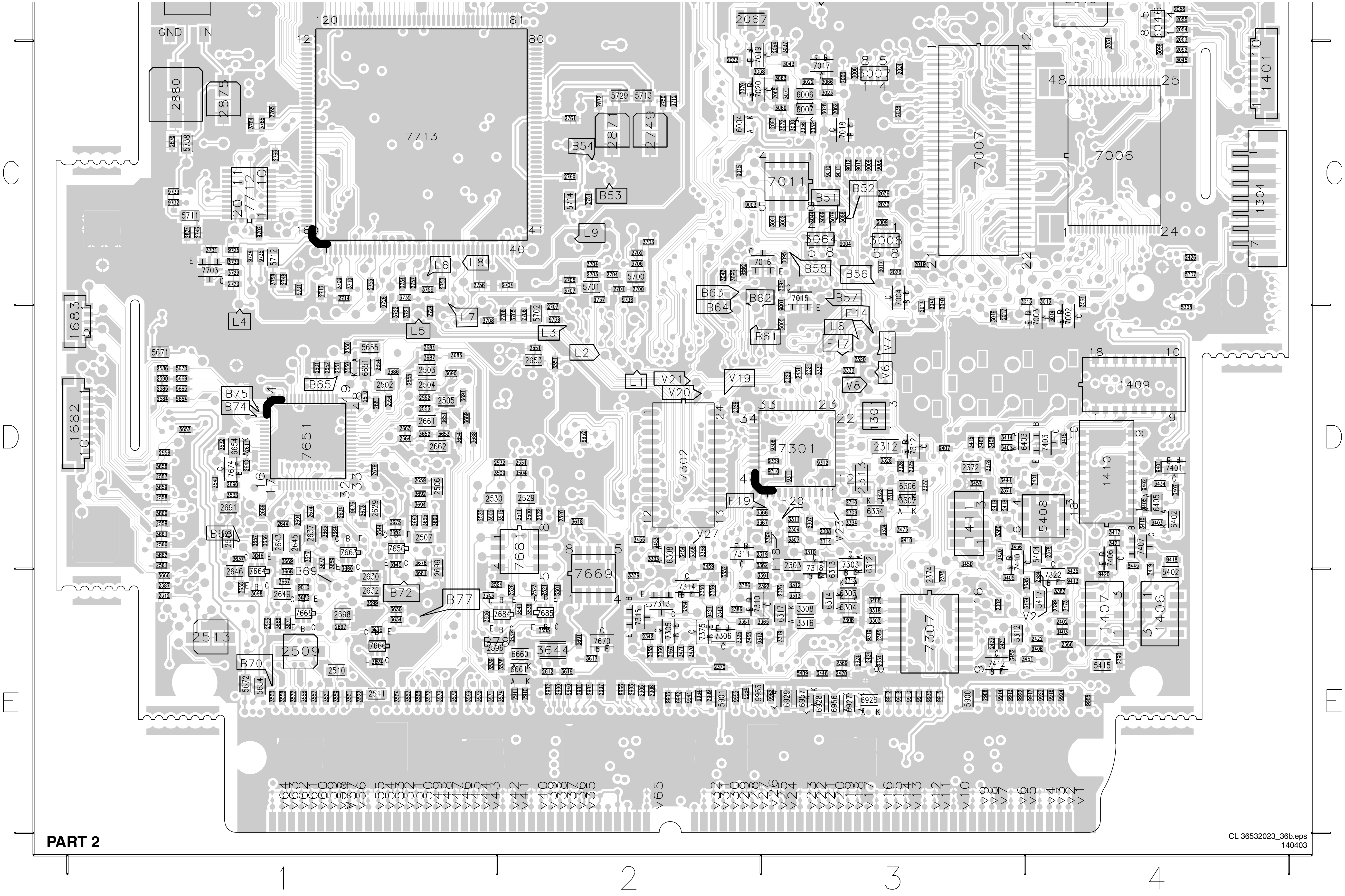
3097	B4
3098	C4
3303	E3
3305	D2
3307	D3
3308	E3
3310	D3
3311	D3
3312	E3
3313	E3
3314	D3
3315	E3
3316	E3
3319	E3
3323	D3
3324	D3
3325	E2
3326	D3
3327	D3
3328	D3
3331	D3
3333	D3
3334	D3
3339	E2
3350	E2
3351	E2
3352	E2
3354	E2
3355	E2
3358	D2
3359	E2
3360	E2
3362	D3
3364	D3
3365	E3
3366	D3
3367	D3
3368	D2
3378	D3
3380	D3
3382	E4
3385	E4
3386	E2
3391	E3
3401	D4
3403	E4
3405	E3
3407	D4
3408	D3
3410	D4
3414	D3
3415	D3
3417	D4
3419	E4
3420	D3
3421	D4
3434	D4
3435	E4
3441	D3
3445	D4
3446	E3
3450	D3
3451	E4
3452	E3
3453	D2
3454	D2
3455	D2
3456	D3
3457	D3
3459	D2
3463	D3
3465	E2
3467	E2
3468	E3
3470	E2
3471	E2
3473	E4
3474	E4
3475	D3
3500	D2
3501	E2
3504	D2
3505	D1
3506	E1
3509	D2
3511	D2
3515	D2
3521	E1
3522	E1
3532	D1
3533	D1
3535	E2
3536	E2
3537	E2
3538	E2
3539	E1
3540	D1
3541	E2
3543	E1
3544	D1
3545	D1
3546	D1
3547	D1
3550	D1
3551	D2
3556	E1
3557	E1
3558	E1
3559	E1
3561	E1
3563	E1
3564	E1
3567	E1
3568	E1
3569	E1
3570	E1
3571	E1
3572	E1
3573	E1
3574	E2
3575	E1
3577	E1
3617	E2
3618	D2
3619	E2
3624	E1
3630	E1
3634	E1
3636	D1
3637	D1
3639	E1
3644	E2
3651	D1
3652	D1
3653	D1
3654	D1
3657	D1
3658	E1
3659	D1
3663	D1
3664	D1
3666	E1
3667	E1
3668	E1
3669	D1
3670	E1
3671	E1
3675	D1
3676	D1
3677	D1
3680	D1
3681	E1
3682	D1
3684	D1
3685	D1
3686	D1
3687	D1
3688	D1
3689	D1
3690	D1
3691	D1
3692	D1
3693	D1
3694	D1
3695	D1
3698	E1
3699	E1
3703	C2
3704	C2
3705	D2
3706	C2
3707	C2
3708	D1
3709	C1
3710	C1
3711	B3
3712	C2
3721	D1
3722	D1
3729	C1
3731	C1
3733	C1
3734	C1
3735	C1
3757	A3
3758	C1
3759	C1
3764	C1
3765	C1
3766	A1
3767	B1
3771	B3
3785	B3
3786	B3
3787	B4
3788	B3
3789	B3
3790	B4
3791	B3
3792	A4
3795	B2
3804	A4
3805	B4
3806	B4
3807	B3
3808	B3
3809	B4
3810	B3
3813	B3
3816	B4
5307	C4
5308	D4
5312	E3
5401	D3
5402	E4
5404	D4
5408	D4
5409	E3
5415	E4
5417	E4
5654	E1
5655	D1
5657	D1
5658	D1
5659	D1
5660	D1
5661	D1
5662	D1
5664	D1
5665	D1
5666	E1
5669	D1
5670	D1
5671	D1
5672	E1
5700	C2
5701	C2
5702	D2
5711	C1
5712	C1
5713	C2
5714	C2
5717	A2
5726	B3
5729	C2
5738	C1
5739	B3
5740	B3
5741	B4
5900	E3
5901	E2
6002	B4
6004	C2
6005	B4
6006	C3
6007	C3
6303	E3
6304	E3
6306	D3
6307	D3
6308	E2
6312	D3
6313	D3
6314	E3
6317	E3
6334	D3
6402	D4
6403	D3
6405	D4
6651	D1
6654	D1
6660	E2
6661	E2
6926	E3
6927	E3
6928	E3
6929	E3
6956	E3
6957	E3
7002	D4
7003	D4
7004	D3
7006	C4
7007	C4
7011	C3
7015	D3
7016	C2
7017	B3
7018	C3
7019	B2
7020	C2
7301	D2
7302	D2
7303	E3
7305	E2
7306	E2
7307	E3
7310	E3
7311	D2
7312	D3
7313	E2
7314	E2
7315	E2
7318	D3
7322	E4
7375	E2
7401	D4
7403	D4
7406	D4
7407	D4
7410	D3
7412	E3
7651	D1
7656	D1
7663	D1
7664	E1
7665	E1
7666	E1
7669	D2
7670	E2
7674	D1
7681	D1
7684	E2
7685	E2
7703	C1
7712	C1
7713	C1
7714	B1
7718	A2
7722	A3
7724	B4
7726	B1
7728	B3
7729	B3
7730	B4
7731	B3
7732	B3
7733	B4
9001	D3
9002	C2
9003	C2
9004	C3
9005	B4
9006	B4
9007	B4
9008	C3
9009	C3
9010	C3
9011	C3
9012	C3
9013	C3
9015	C2
9308	D3
9309	D3
9310	D3
9311	D3
9312	D3
9313	E2
9318	E3
9319	E3
9324	E3
9401	D4
9402	D4
9403	D4
9405	D4
9406	E4
9407	D3
9410	D3
9413	E4
9415	D4
9418	D4
9420	E4
9421	E2
9610	E1
9652	D2
9676	D1
9691	E2
9701	C1
9702	C1
9704	C2
9707	B2
9708	B2
9709	B2
9710	B2
9711	B2
9712	A1
9713	A1
9716	A1
9717	B1
9722	A2
9723	A2
9724	A2
9725	C1
9726	C1
9732	C1
9733	C1
9734	C1
9735	C1
9736	C2
9737	C2
9738	D2
9753	B3
9754	A3
9760	A1
9761	B1
9910	E3
9911	E3
9912	E3
9913	E3
9914	E3
9915	E3
9916	E4
9917	E4
9918	E3
9922	E3
9923	E4
9924	E4
9930	E3
9934	E2
9936	E2
9940	E2
9941	E2
9942	E2
9955	E2
9962	E3
9963	E2
9964	E2
9965	E4
9966	E2

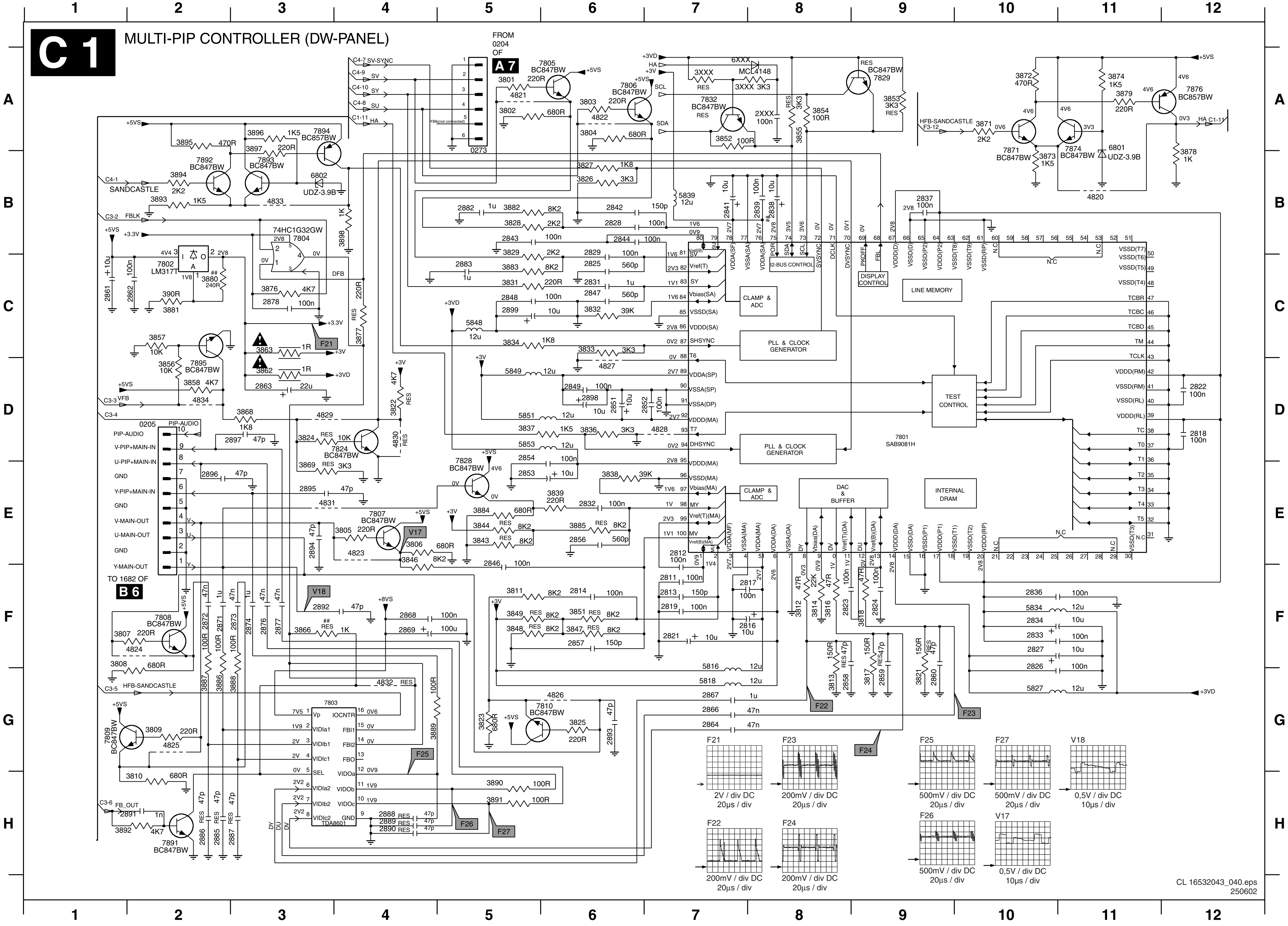
Layout Small Signal Board (Part 1 Bottom Side)


1
2
3
4
A
B
C
PART 1
7718
7714
7722
7724
7713
7007
7006
7011
7712
7726
OUT
GND
IN
2880
2875
2730
2728
2871
2749
2013
2067
1401
1304
B51
B52
B53
B54
B56
B57
B58
B60
B62
B63
L6
L8
L9
5717
5726
5739
5740
5741
5729
5713
5700
5701
5711
5712
5738
3007
3008
3064
3046
6002
6005
6006
6007
6004
7017
7018
7019
7020
7015
7016
7004
7703
7728
7729
7730
7731
7732
7733
9005
9006
9710
9709
9708
9707
3785
3786
3787
CL 36532023_36a.eps
140403

Layout Small Signal Board (Part 2 Bottom Side)


PART 2
C
D
E
1
2
3
4
CL 36532023_36b.eps
140403

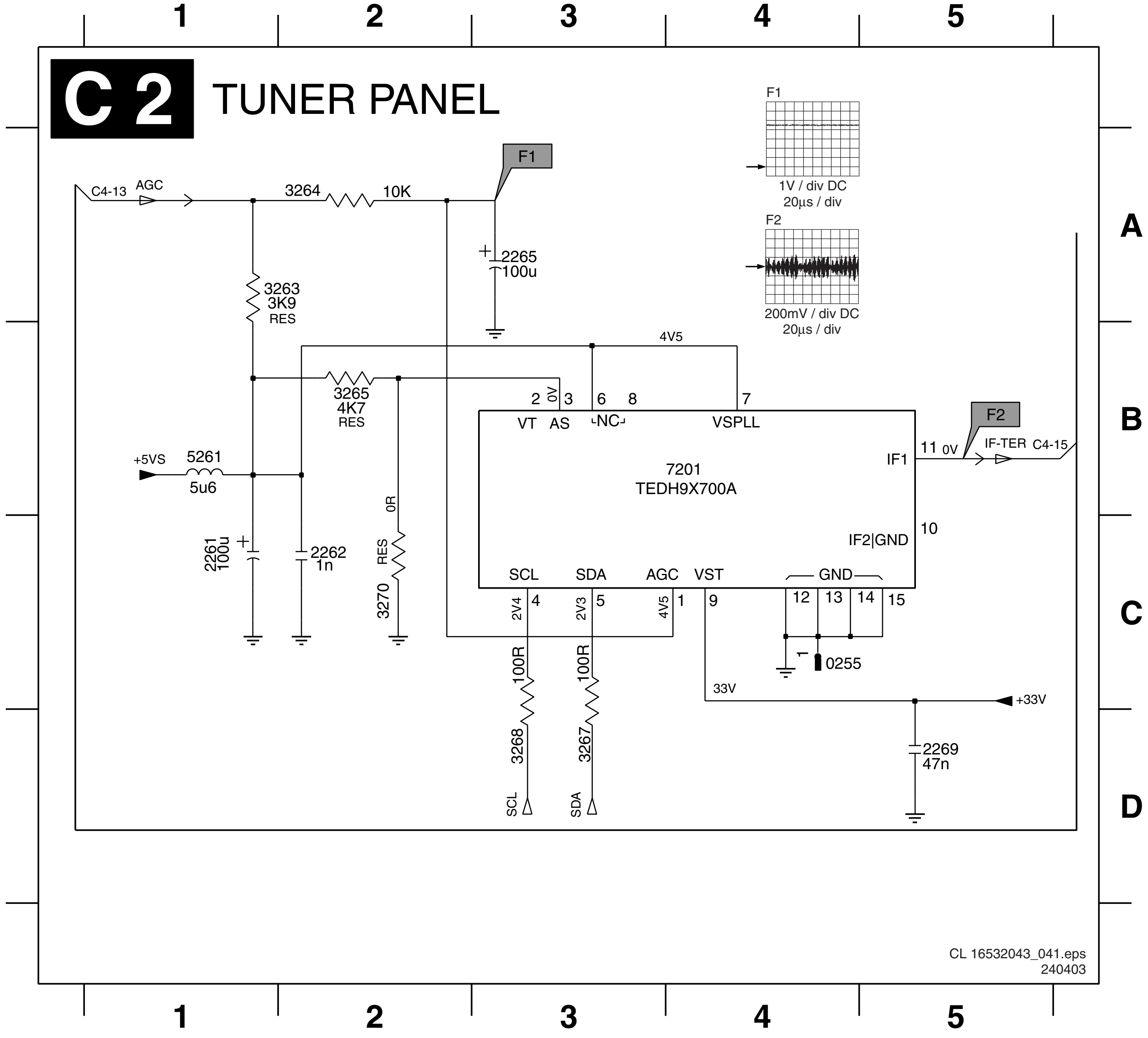
DW Panel: Multi PIP Controller


C 1
MULTI-PIP CONTROLLER (DW-PANEL)
FROM 0204 OF A 7
TO 1682 OF B 6
0205 PIP-AUDIO
PIP-AUDIO
V-PIP+MAIN-IN
U-PIP+MAIN-IN
GND
Y-PIP+MAIN-IN
GND
V-MAIN-OUT
U-MAIN-OUT
GND
Y-MAIN-OUT
SANDCASTLE
FBLK
VFB
HFB-SANDCASTLE
FB_OUT
SV-SYNC
SV
SY
SU
HA
SCL
SDA
0273
74HC1G32GW 7804
7802 LM3171
7801 SAB9081H
7803 TDA8601
CLAMP & ADC
PLL & CLOCK GENERATOR
I2-BUS CONTROL
DISPLAY CONTROL
LINE MEMORY
TEST CONTROL
DAC & BUFFER
INTERNAL DRAM
HFB-SANDCASTLE F3-12
HA C1-11
F21
2V / div DC
20µs / div
F22
200mV / div DC
20µs / div
F23
200mV / div DC
20µs / div
F24
200mV / div DC
20µs / div
F25
500mV / div DC
20µs / div
F26
500mV / div DC
20µs / div
F27
500mV / div DC
20µs / div
V17
0,5V / div DC
10µs / div
V18
0,5V / div DC
10µs / div
CL 16532043_040.eps
250602

0205 D2		3828 B5		787
0273 B5		3829 C5		789
2811 F7		3831 C5		789
2812 E7		3832 C6		789
2813 F7		3833 C6		789
2814 F6		3834 C5		789
2816 F7		3836 D6		
2817 F8		3837 D5		
2818 D12		3838 E6		
2819 F7		3839 E6		
2821 F7		3843 E5		
2822 D12		3844 E5		
2823 F8		3846 E4		
2824 F9		3847 F6		
2825 C6		3848 F5		
2826 G10		3849 F5		
2827 F10		3851 F6		
2828 B6		3852 A7		
2829 C6		3853 A9		
2831 C6		3854 A8		
2832 E6		3855 A8		
2833 F10		3856 D2		
2834 F10		3857 C2		
2836 F10		3858 D2		
2837 B9		3862 D3		
2838 B8		3863 C3		
2839 B8		3866 F3		
2841 B7		3868 D3		
2842 B6		3869 E3		
2843 B5		3871 A10		
2844 B6		3872 A10		
2846 F5		3873 B10		
2847 C6		3874 A11		
2848 C5		3876 C3		
2849 D6		3877 C4		
2851 D6		3878 B12		
2852 D7		3879 A11		
2853 E5		3880 C2		
2854 D5		3881 C2		
2856 E6		3882 B5		
2857 F6		3883 C5		
2858 G8		3884 E5		
2859 G9		3885 E6		
2860 G9		3886 G2		
2861 C1		3887 G2		
2862 C2		3888 G3		
2863 D3		3889 G4		
2864 G7		3890 H5		
2866 G7		3891 H5		
2867 G7		3892 H1		
2868 F4		3893 B2		
2869 F4		3894 B2		
2871 F2		3895 A2		
2872 F2		3896 A3		
2873 F3		3897 B3		
2874 F3		3898 B4		
2876 F3		3XXX A7		
2877 F3		3XXX A7		
2878 C3		4820 B11		
2882 B5		4821 A5		
2883 C5		4822 A6		
2885 H2		4823 E4		
2886 H2		4824 F2		
2887 H2		4825 G2		
2888 H4		4826 G6		
2889 H4		4827 D6		
2890 H4		4828 D7		
2891 H2		4829 D3		
2892 F3		4830 D4		
2893 G6		4831 E3		
2894 E3		4832 G4		
2895 E3		4833 B3		
2896 E2		4834 D2		
2897 D3		5816 G7		
2898 D6		5818 G7		
2899 C5		5827 G10		
2XXX A8		5834 F10		
3801 A5		5839 B7		
3802 A5		5848 C5		
3803 A6		5849 D5		
3804 A6		5851 D5		
3805 E4		5853 D5		
3806 E4		6801 A11		
3807 F1		6802 B3		
3808 F1		6XXX A7		
3809 G2		7801 D9		
3810 H2		7802 C2		
3811 F5		7803 G3		
3812 F8		7804 B3		
3813 G8		7805 A5		
3814 F8		7806 A6		
3816 F8		7807 E4		
3817 G9		7808 F2		
3818 F9		7809 G1		
3821 G9		7810 G5		
3822 D4		7824 D3		
3823 G5		7828 D5		
3824 D3		7829 A9		
3825 G6		7832 A7		
3826 B6		7871 B10		
3827 B6		7874 B11		

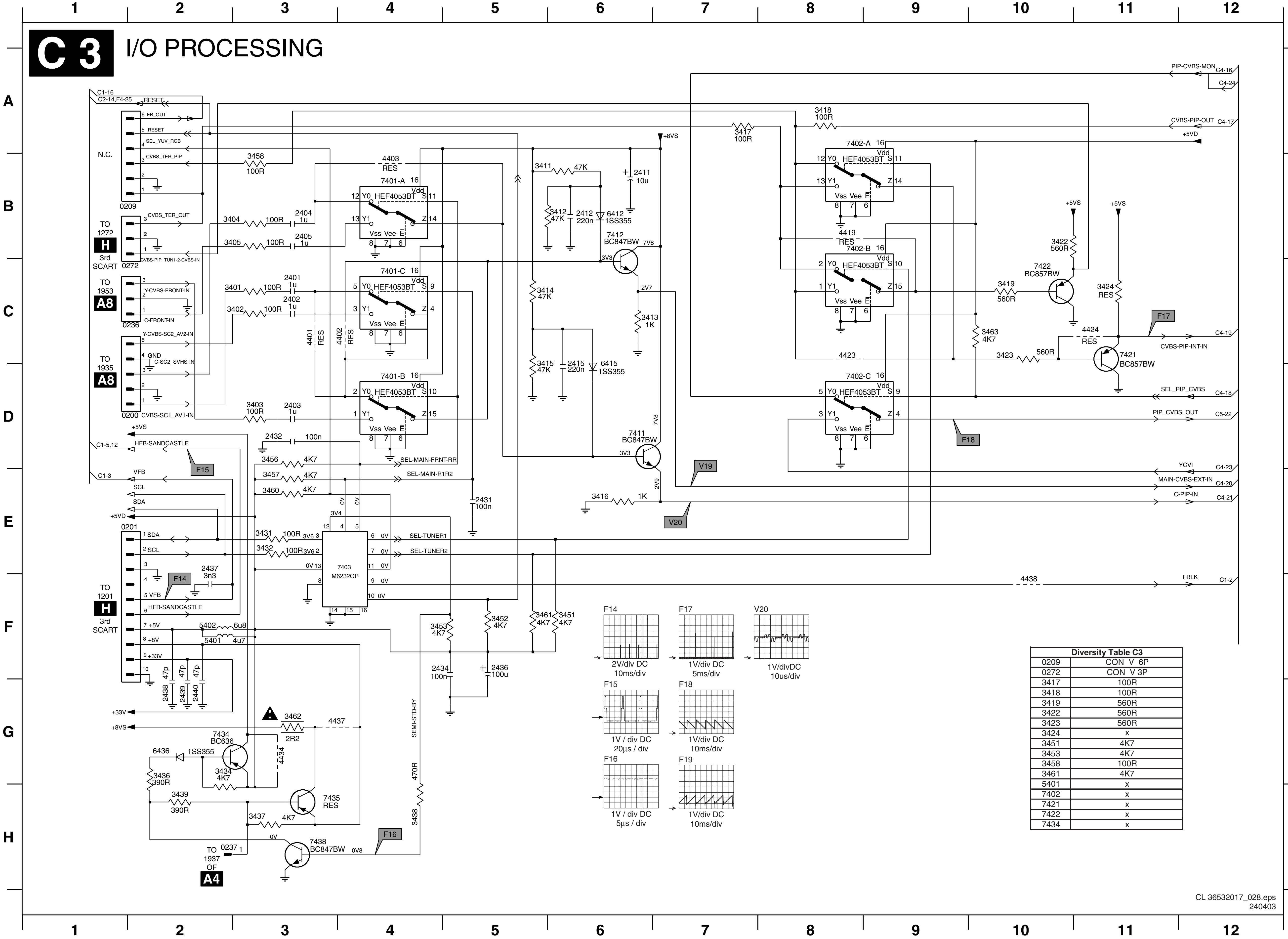
DW Panel: Tuner

0255 C5	2261 C1	2262 C2	2265 A3	2269 D5	3263 A2	3264 A2	3265 B2	3267 D3	3268 D3	3270 C2	5261 B1	7201 B4


1
2
3
4
5
A
B
C
D
C 2
TUNER PANEL
F1
1V / div DC
20µs / div
F2
200mV / div DC
20µs / div
C4-13
AGC
3264
10K
2265
100u
3263
3K9
RES
4V5
3265
4K7
RES
2
0V
3
6
8
7
VT
AS
NC
VSPLL
+5VS
5261
5u6
7201
TEDH9X700A
IF1
11
0V
IF-TER
C4-15
10
IF2|GND
2261
100u
2262
1n
0R
RES
3270
SCL
SDA
AGC
VST
GND
2V4
4
2V3
5
4V5
1
9
12
13
14
15
0255
100R
3268
100R
3267
33V
+33V
2269
47n
SCL
SDA
CL 16532043_041.eps
240403

Personal Notes:

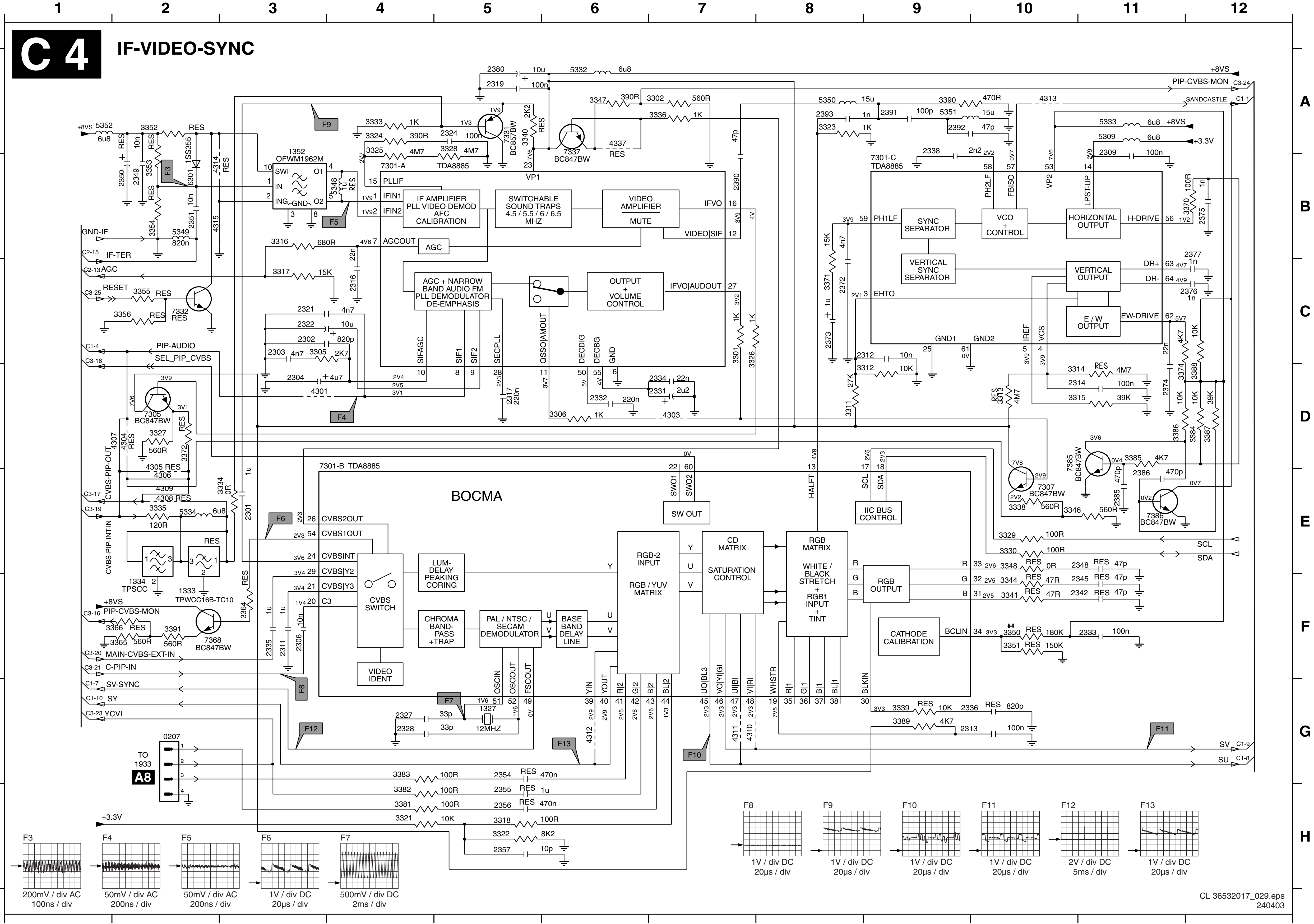
DW Panel: I/O Processing


C 3
I/O PROCESSING
1 2 3 4 5 6 7 8 9 10 11 12
A B C D E F G H
C1-16
C2-14,F4-25
RESET
6 FB_OUT
5 RESET
4 SEL_YUV_RGB
3 CVBS_TER_PIP
N.C.
0209
TO 1272 H 3rd SCART
CVBS_TER_OUT
0272
CVBS-PIP_TUN1-2-CVBS-IN
TO 1953 A8
Y-CVBS-FRONT-IN
C-FRONT-IN
0236
Y-CVBS-SC2_AV2-IN
4 GND
C-SC2_SVHS-IN
TO 1935 A8
0200 CVBS-SC1_AV1-IN
3458 100R
4403 RES
3404 100R
2404 1u
3405 100R
2405 1u
3401 100R
2401 1u
3402 100R
2402 1u
3403 100R
2403 1u
4401 RES
4402 RES
7401-A HEF4053BT
7401-C HEF4053BT
7401-B HEF4053BT
Vdd Y0 Y1 Z S Vss Vee E
+8VS
3411 47K
2411 10u
3412 47K
2412 220n
6412 1SS355
7412 BC847BW
7V8
3V3
2V7
3413 1K
3414 47K
3415 47K
2415 220n
6415 1SS355
7411 BC847BW
3416 1K
2V9
V19
V20
3417 100R
3418 100R
7402-A HEF4053BT
4419 RES
7402-B HEF4053BT
4423
7402-C HEF4053BT
F18
PIP-CVBS-MON C4-16
C4-24
CVBS-PIP-OUT C4-17
+5VD
+5VS
3422 560R
7422 BC857BW
3419 560R
3424 RES
3463 4K7
F17
4424 RES
3423 560R
7421 BC857BW
C4-19 CVBS-PIP-INT-IN
SEL_PIP_CVBS C4-18
PIP_CVBS_OUT C5-22
YCVI C4-23
MAIN-CVBS-EXT-IN C4-20
C-PIP-IN C4-21
+5VS
C1-5,12 HFB-SANDCASTLE
F15
C1-3 VFB
SCL
SDA
+5VD
2432 100n
3456 4K7 SEL-MAIN-FRNT-RR
3457 4K7 SEL-MAIN-R1R2
3460 4K7
2431 100n
0201
1 SDA
2 SCL
4
F14
2437 3n3
5 VFB
6 HFB-SANDCASTLE
7 +5V
8 +8V
9 +33V
10
TO 1201 H 3rd SCART
5402 6u8
5401 4u7
2438 47p
2439 47p
2440 47p
3431 100R 3V6
3432 100R 3V6
3V4
7403 M6232OP
SEL-TUNER1
SEL-TUNER2
4438
FBLK C1-2
3453 4K7
3452 4K7
3461 4K7
3451 4K7
2434 100n
2436 100u
SEMI-STD-BY
+33V
+8VS
3462 2R2
4437
7434 BC636
6436 1SS355
3436 390R
3434 4K7
4434
3439 390R
7435 RES
3437 4K7
3438 470R
7438 BC847BW
0V8
F16
TO 1937 OF A4
0237
F14 2V/div DC 10ms/div
F17 1V/div DC 5ms/div
V20 1V/divDC 10us/div
F15 1V / div DC 20µs / div
F18 1V/div DC 10ms/div
F16 1V / div DC 5µs / div
F19 1V/div DC 10ms/div
CL 36532017_028.eps
240403

Diversity Table C3	
0209	CON V 6P
0272	CON V 3P
3417	100R
3418	100R
3419	560R
3422	560R
3423	560R
3424	x
3451	4K7
3453	4K7
3458	100R
3461	4K7
5401	x
7402	x
7421	x
7422	x
7434	x

0200	D2
0201	E2
0209	B2
0236	C2
0237	H2
0272	C1
2401	C3
2402	C3
2403	D3
2404	B3
2405	B3
2411	B6
2412	B6
2415	C6
2431	E5
2432	D3
2434	F4
2436	F5
2437	E2
2438	G2
2439	G2
2440	G2
3401	C3
3402	C3
3403	D3
3404	B2
3405	B2
3411	B5
3412	B6
3413	C6
3414	C5
3415	C5
3416	E6
3417	A7
3418	A8
3419	C10
3422	B10
3423	C10
3424	C11
3431	E3
3432	E3
3434	G2
3436	G2
3437	H3
3438	H4
3439	H2
3451	F6
3452	F5
3453	F4
3456	D3
3457	E3
3458	B3
3460	E3
3461	F5
3462	G3
3463	C10
4401	C3
4402	C4
4403	B4
4419	B8
4423	C8
4424	C11
4434	G3
4437	G3
4438	F10
5401	F2
5402	F2
6412	B6
6415	C6
6436	G2
7401-A	B4
7401-B	D4
7401-C	C4
7402-A	A8
7402-B	B8
7402-C	D8
7403	E4
7411	D6
7412	B6
7421	C11
7422	C10
7434	G2
7435	H3
7438	H3

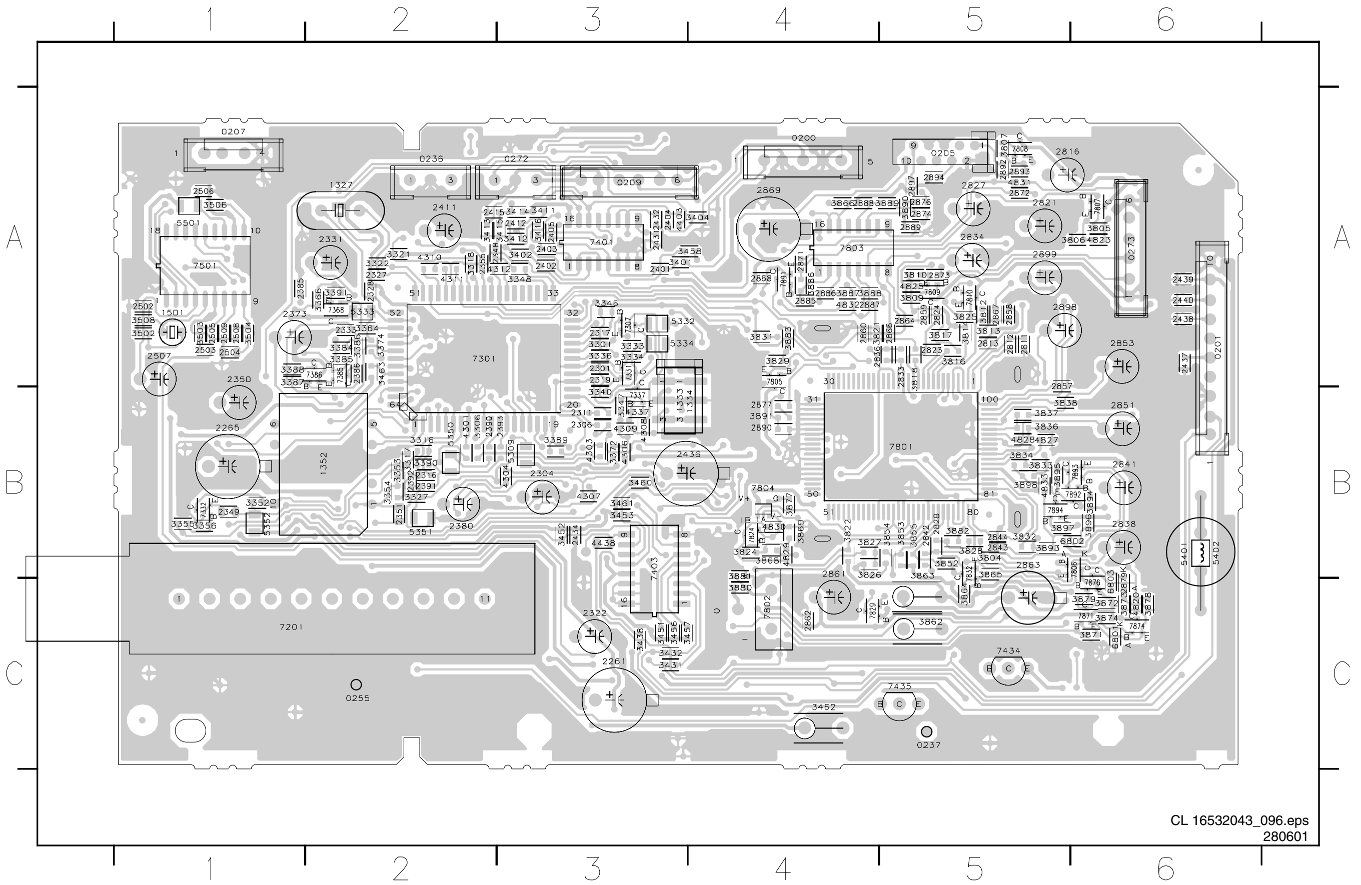
DW Panel: IF Video Sync


C 4
IF-VIDEO-SYNC
1352 OFWM1962M
7301-A TDA8885
IF AMPLIFIER PLL VIDEO DEMOD AFC CALIBRATION
SWITCHABLE SOUND TRAPS 4.5 / 5.5 / 6 / 6.5 MHZ
VIDEO AMPLIFIER MUTE
AGC
AGC + NARROW BAND AUDIO FM PLL DEMODULATOR DE-EMPHASIS
OUTPUT + VOLUME CONTROL
7301-C TDA8885
SYNC SEPARATOR
VCO + CONTROL
HORIZONTAL OUTPUT
VERTICAL SYNC SEPARATOR
VERTICAL OUTPUT
E / W OUTPUT
7301-B TDA8885
BOCMA
SW OUT
IIC BUS CONTROL
CVBS SWITCH
LUM-DELAY PEAKING CORING
CHROMA BAND-PASS +TRAP
PAL / NTSC / SECAM DEMODULATOR
BASE BAND DELAY LINE
VIDEO IDENT
RGB-2 INPUT RGB / YUV MATRIX
CD MATRIX SATURATION CONTROL
RGB MATRIX WHITE / BLACK STRETCH + RGB1 INPUT + TINT
RGB OUTPUT
CATHODE CALIBRATION
TO 1933 A8
+8VS
PIP-CVBS-MON
SANDCASTLE
GND-IF
IF-TER
AGC
RESET
PIP-AUDIO
SEL_PIP_CVBS
CVBS-PIP-OUT
CVBS-PIP-INT-IN
MAIN-CVBS-EXT-IN
C-PIP-IN
SV-SYNC
SY
YCVI
SCL
SDA
SV
SU
+3.3V
F3 200mV / div AC 100ns / div
F4 50mV / div AC 200ns / div
F5 50mV / div AC 200ns / div
F6 1V / div DC 20µs / div
F7 500mV / div DC 2ms / div
F8 1V / div DC 20µs / div
F9 1V / div DC 20µs / div
F10 1V / div DC 20µs / div
F11 1V / div DC 20µs / div
F12 2V / div DC 5ms / div
F13 1V / div DC 20µs / div
CL 36532017_029.eps 240403

0207	G2
1327	G5
1333	F2
1334	F2
1352	B3
2301	E3
2302	C3
2303	C3
2304	D3
2306	F3
2309	B11
2311	F3
2312	C9
2313	G9
2314	D10
2316	C4
2317	D5
2319	A5
2321	C3
2322	C3
2324	A5
2327	G4
2328	G4
2331	D7
2332	D6
2333	F11
2334	D7
2335	F3
2336	G9
2338	A9
2342	F11
2345	F11
2348	E11
2349	B2
2350	B2
2351	B2
2354	G5
2355	H5
2356	H5
2357	H5
2372	C8
2373	C8
2374	D11
2375	B12
2376	C12
2377	B12
2380	A5
2385	E11
2386	E11
2390	B7
2391	A9
2392	A9
2393	A8
3301	C7
3302	A7
3305	C3
3306	D6
3311	D8
3312	D9
3313	D10
3314	D10
3315	D10
3316	B3
3317	C3
3318	H5
3321	H4
3322	H5
3323	A8
3324	A4
3325	A4
3326	C7
3327	D2
3328	A5
3329	E10
3330	E10
3333	A4
3334	E3
3335	E2
3336	A7
3338	E10
3339	G9
3340	A5
3341	F10
3344	F10
3346	E10
3347	A6
3348	E10
3350	F10
3351	F10
3352	A2
3353	B2
3354	B2
3355	C2
3356	C2
3364	F3
3365	F2
3366	F1
3370	B12
3371	C8
3372	D2
3374	D11
3381	H4
3382	H4
3383	G4
3384	D12
3385	D11
3386	D11
3387	D12
3388	D12
3389	G9
3390	A9
3391	F2
4301	D3
4303	D7
4304	D2
4305	D2
4306	E2
4307	D2
4308	E2
4309	E2
4310	G7
4311	G7
4312	G6
4313	A10
4314	B2
4315	B2
4337	A6
5309	A11
5332	A6
5333	A11
5334	E2
5348	B4
5349	B2
5350	A8
5351	A9
5352	A1
6301	B2
7301-A	B4
7301-B	D3
7301-C	B9
7305	D2
7307	E10
7331	A5
7332	C2
7337	A6
7368	F3
7385	D10
7386	E11

Layout Double Window Panel (Top View)

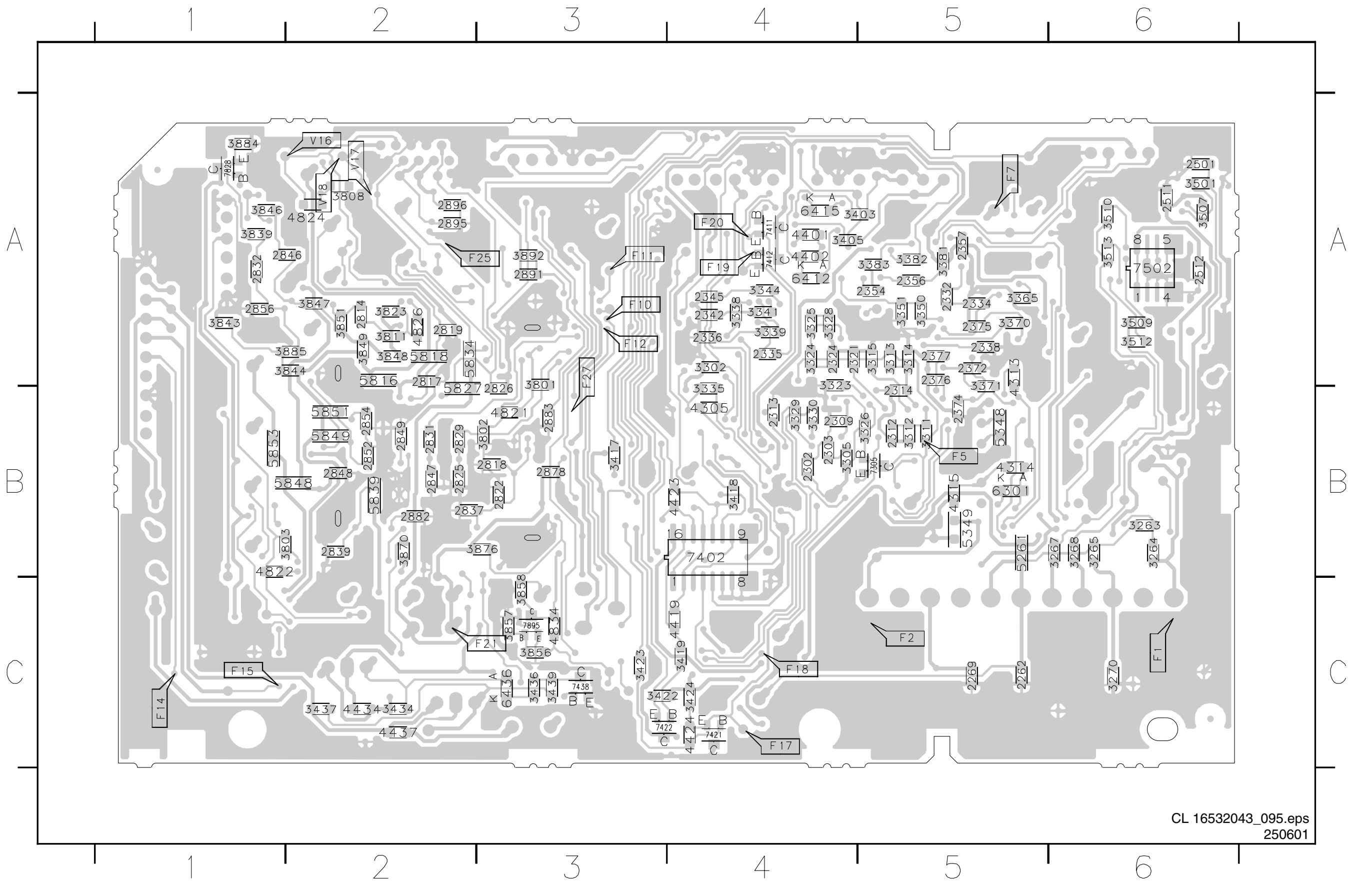
0200	A4
0201	A6
0205	A5
0207	A1
0209	A3
0236	A2
0237	C5
0255	C2
0272	A3
0273	A6
1327	A2
1333	B3
1334	B4
1352	B2
1501	A1
2261	C3
2265	B1
2301	A3
2304	B3
2306	B3
2311	B3
2316	B2
2317	A3
2319	A3
2322	C3
2327	A2
2328	A2
2331	A2
2333	A2
2348	A2
2349	B1
2350	A1
2351	B2
2355	A2
2373	A1
2380	B2
2385	A1
2386	A2
2390	B2
2391	B2
2392	B2
2393	B3
2401	A3
2402	A3
2403	A3
2404	A3
2405	A3
2411	A2
2412	A3
2415	A2
2431	A3
2432	A3
2434	B3
2436	B4
2437	A6
2438	A6
2439	A6
2440	A6
2502	A1
2503	A1
2504	A1
2505	A1
2506	A1
2507	A1
2508	A1
2509	A1
2811	A5
2812	A5
2813	A5
2816	A5
2821	A5
2823	A5
2824	A5
2827	A5
2828	B5
2833	A5
2834	A5
2836	A4
2838	B6
2841	B6
2842	B5
2843	B5
2844	B5
2851	B6
2853	A6
2857	A5
2858	A5
2859	A5
2860	A4
2861	B4
2862	C4
2863	B5
2864	A5
2866	A5
2867	A5
2868	A4
2869	A4
2871	A4
2872	A5
2873	A5
2874	A5
2876	A5
2877	B4
2879	C6
2885	A4
2886	A4
2887	A4
2888	A4
2889	A5
2890	B4
2892	A5
2893	A5
2894	A5
2897	A5
2898	A5
2899	A5
3301	A3
3306	B2
3316	B2
3317	B2
3318	A2
3321	A2
3322	A2
3327	B2
3333	A3
3334	A3
3336	A3
3340	B3
3346	A3
3347	B3
3348	A3
3352	B1
3353	B2
3354	B2
3355	B1
3356	B1
3364	A2
3366	A2
3372	B3
3374	A2
3384	A2
3385	A2
3386	A2
3387	A1
3388	A1
3389	B3
3390	B2
3391	A2
3401	A3
3402	A3
3404	A4
3411	A3
3412	A3
3413	A2
3414	A3
3415	A3
3416	A3
3431	C3
3432	C3
3438	C3
3451	C3
3452	B3
3453	B3
3456	C3
3457	C3
3458	A4
3460	B3
3461	B3
3462	C4
3463	A2
3502	A1
3503	A1
3504	A1
3506	A1
3508	A1
3804	B5
3805	A6
3806	A6
3807	A5
3809	A5
3810	A5
3812	A5
3813	A5
3814	A5
3816	A5
3817	A5
3818	A5
3821	A4
3822	B4
3824	B4
3825	A5
3826	B4
3827	B4
3828	B5
3829	A4
3831	A4
3832	B5
3833	B5
3834	B5
3836	B5
3837	B5
3838	B5
3852	B5
3853	B5
3854	B5
3855	B5
3862	C5
3863	B5
3864	C5
3865	B5
3866	A4
3868	B4
3869	B4
3871	C6
3872	C6
3873	C6
3874	C6
3877	B4
3878	C6
3879	C6
3880	C4
3881	B4
3882	B5
3883	A4
3886	A4
3887	A4
3888	A4
3889	A5
3890	A5
3891	B4
3893	B5
3894	B6
3895	B5
3896	B6
3897	B5
3898	B5
4301	B2
4303	B3
4304	B3
4306	B3
4307	B3
4308	B3
4309	B3
4310	A2
4311	A2
4312	A3
4337	B3
4403	A3
4438	B3
4820	C6
4823	A6
4825	A5
4827	B5
4828	B5
4829	B4
4830	B4
4831	A5
4832	A4
4833	B5
5309	B3
5332	A3
5333	A2
5334	A3
5350	B2
5351	B2
5352	B1
5401	B6
5402	B6
5501	A1
6801	C6
6802	B6
6803	C6
7201	C1
7301	A2
7307	A3
7331	A3
7332	B1
7337	B3
7368	A2
7385	A2
7386	A2
7401	A3
7403	B3
7434	C5
7435	C5
7501	A1
7801	B5
7802	C4
7803	A4
7804	B4
7805	A4
7806	B6
7807	A6
7808	A5
7809	A5
7810	A5
7824	B4
7829	C4
7832	B5
7871	C6
7874	C6
7876	C6
7891	A4
7892	B6
7893	B6
7894	B5



CL 16532043_096.eps
280601

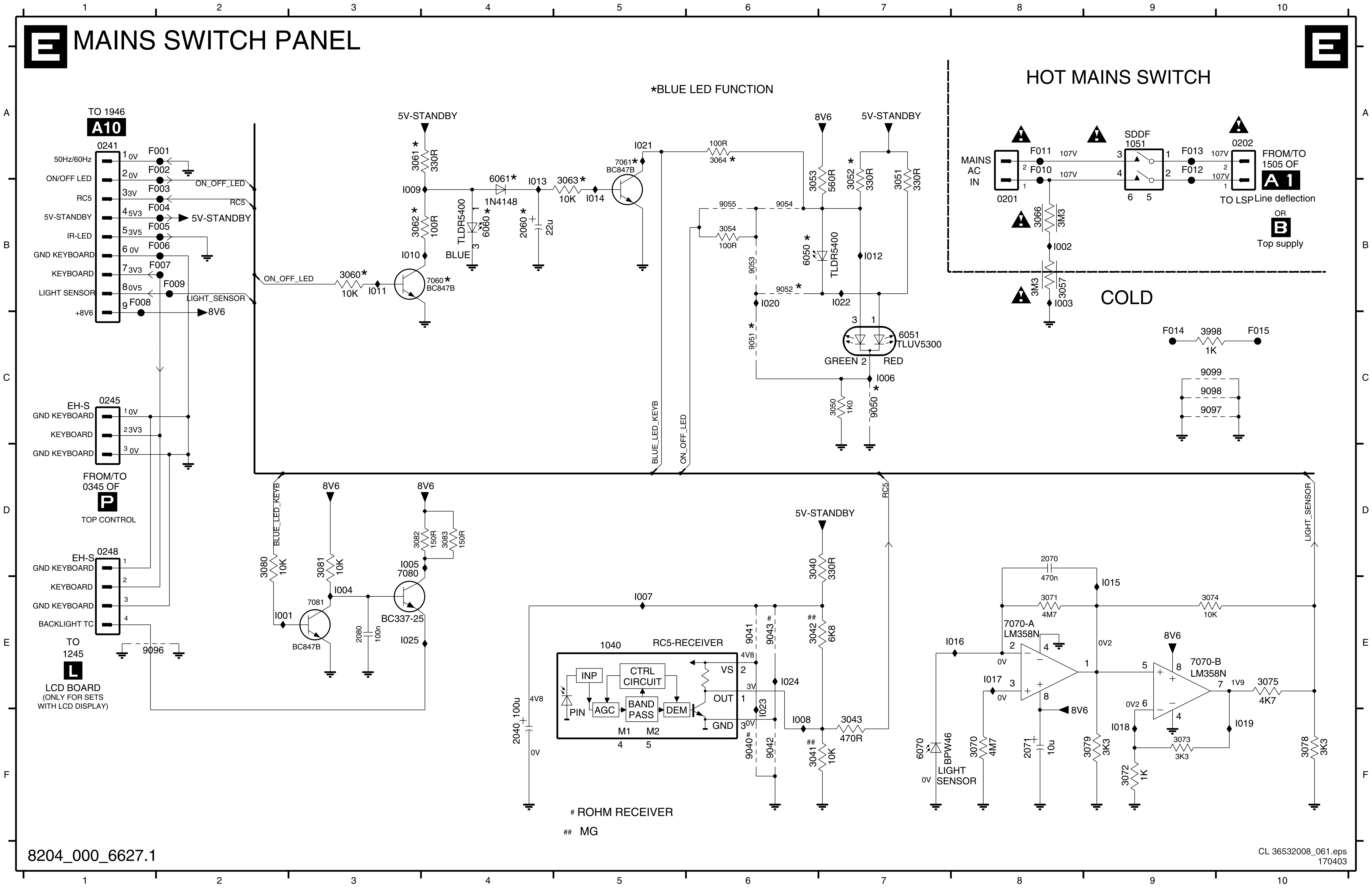
Layout Double Window Panel (Bottom View)

2262	C5
2269	C5
2302	B4
2303	B4
2309	B4
2312	B5
2313	B4
2314	B5
2321	A4
2324	A4
2332	A5
2334	A5
2335	A4
2336	A4
2338	A5
2342	A4
2345	A4
2354	A5
2356	A5
2357	A5
2372	A5
2374	B5
2375	A5
2376	A5
2377	A5
2501	A6
2511	A6
2512	A6
2814	A2
2817	A2
2818	B3
2819	A2
2822	B3
2825	B2
2826	B3
2829	B2
2831	B2
2832	A1
2837	B2
2839	B2
2846	A2
2847	B2
2848	B2
2849	B2
2852	B2
2854	B2
2856	A1
2878	B3
2882	B2
2883	B3
2891	A3
2895	A2
2896	A2
3263	B6
3264	B6
3265	B6
3267	B6
3268	B6
3270	C6
3302	A4
3305	B4
3311	B5
3312	B5
3313	A5
3314	A5
3315	A5
3323	A4
3324	A4
3325	A4
3326	B5
3328	A4
3329	B4
3330	B4
3335	B4
3338	A4
3339	A4
3341	A4
3344	A4
3350	A5
3351	A5
3365	A5
3370	A5
3371	B5
3381	A5
3382	A5
3383	A5
3403	A5
3405	A4
3417	B3
3418	B4
3419	C4
3422	C3
3423	C3
3424	C4
3434	C2
3436	C3
3437	C2
3439	C3
3501	A6
3507	A6
3509	A6
3510	A6
3512	A6
3513	A6
3801	A3
3802	B3
3803	B2
3808	A2
3811	A2
3823	A2
3839	A1
3843	A1
3844	A2
3846	A1
3847	A2
3848	A2
3849	A2
3851	A2
3856	C3
3857	C3
3858	C3
3870	B2
3876	B3
3884	A1
3885	A2
3892	A3
4305	B4
4313	A5
4314	B5
4315	B5
4401	A4
4402	A4
4419	C4
4423	B4
4424	C4
4434	C2
4437	C2
4821	B3
4822	B1
4824	A2
4826	A2
4834	C3
5261	B5
5348	B5
5349	B5
5816	A2
5818	A2
5827	B2
5834	A2
5839	B2
5848	B2
5849	B2
5851	B2
5853	B1
6301	B5
6412	A4
6415	A4
6436	C3
7305	B5
7402	B4
7411	A4
7412	A4
7421	C4
7422	C3
7438	C3
7502	A6
7828	A1
7895	C3



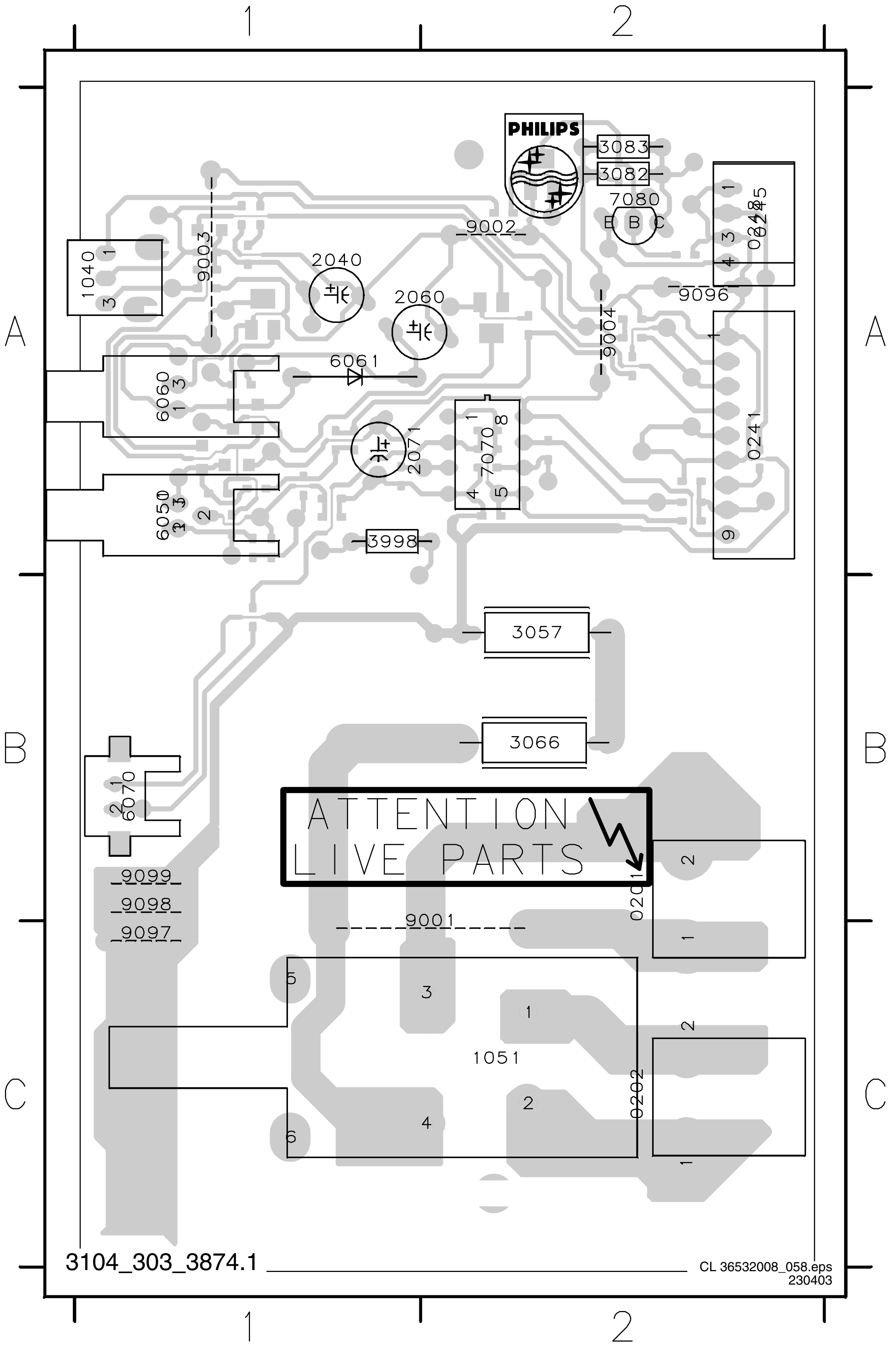
CL 16532043_095.eps
250601

Mains Switch Panel (FL11 Styling)


E
MAINS SWITCH PANEL
*BLUE LED FUNCTION
HOT MAINS SWITCH
COLD
TO 1946
A10
0241
50Hz/60Hz
ON/OFF LED
RC5
5V-STANDBY
IR-LED
GND KEYBOARD
KEYBOARD
LIGHT SENSOR
+8V6
F001
F002
F003
F004
F005
F006
F007
F008
F009
ON_OFF_LED
LIGHT_SENSOR
8V6
EH-S
0245
FROM/TO
0345 OF
P
TOP CONTROL
0248
BACKLIGHT TC
TO
1245
L
LCD BOARD
(ONLY FOR SETS
WITH LCD DISPLAY)
9096
3060*
10K
I011
7060*
BC847B
3061*
330R
I009
3062*
100R
I010
TLDR5400
6060*
BLUE
6061*
1N4148
I013
3063*
10K
I014
2060*
22u
7061*
BC847B
I021
100R
3064*
9055
9054
3054
100R
9053
9052*
9051*
I020
I022
3053
560R
3052*
330R
3051
330R
6050*
TLDR5400
I012
6051
TLUV5300
GREEN
RED
I006
3050
1K0
9050*
BLUE_LED_KEYB
ON_OFF_LED
MAINS
AC
IN
0201
F011
F010
107V
SDDF
1051
F013
F012
0202
FROM/TO
1505 OF
A1
TO LSP
Line deflection
OR
B
Top supply
3066
3M3
I002
3057
3M3
I003
F014
3998
1K
F015
9099
9098
9097
3080
10K
3081
10K
I004
7081
BC847B
I001
2080
100n
3082
150R
3083
150R
I005
7080
BC337-25
I025
I007
1040
RC5-RECEIVER
INP
CTRL
CIRCUIT
AGC
BAND
PASS
DEM
PIN
M1
M2
VS
OUT
GND
4V8
3V
0V
2040
100u
9041
9043
I024
I023
9040
9042
I008
3043
470R
3040
330R
3042
6K8
3041
10K
# ROHM RECEIVER
## MG
RC5
LIGHT_SENSOR
2070
470n
I015
3071
4M7
3074
10K
7070-A
LM358N
7070-B
LM358N
I016
I017
0V2
1V9
3075
4K7
I018
I019
3073
3K3
6070
BPW46
LIGHT
SENSOR
3070
4M7
2071
10u
3079
3K3
3072
1K
3078
3K3
8204_000_6627.1
CL 36532008_061.eps
170403

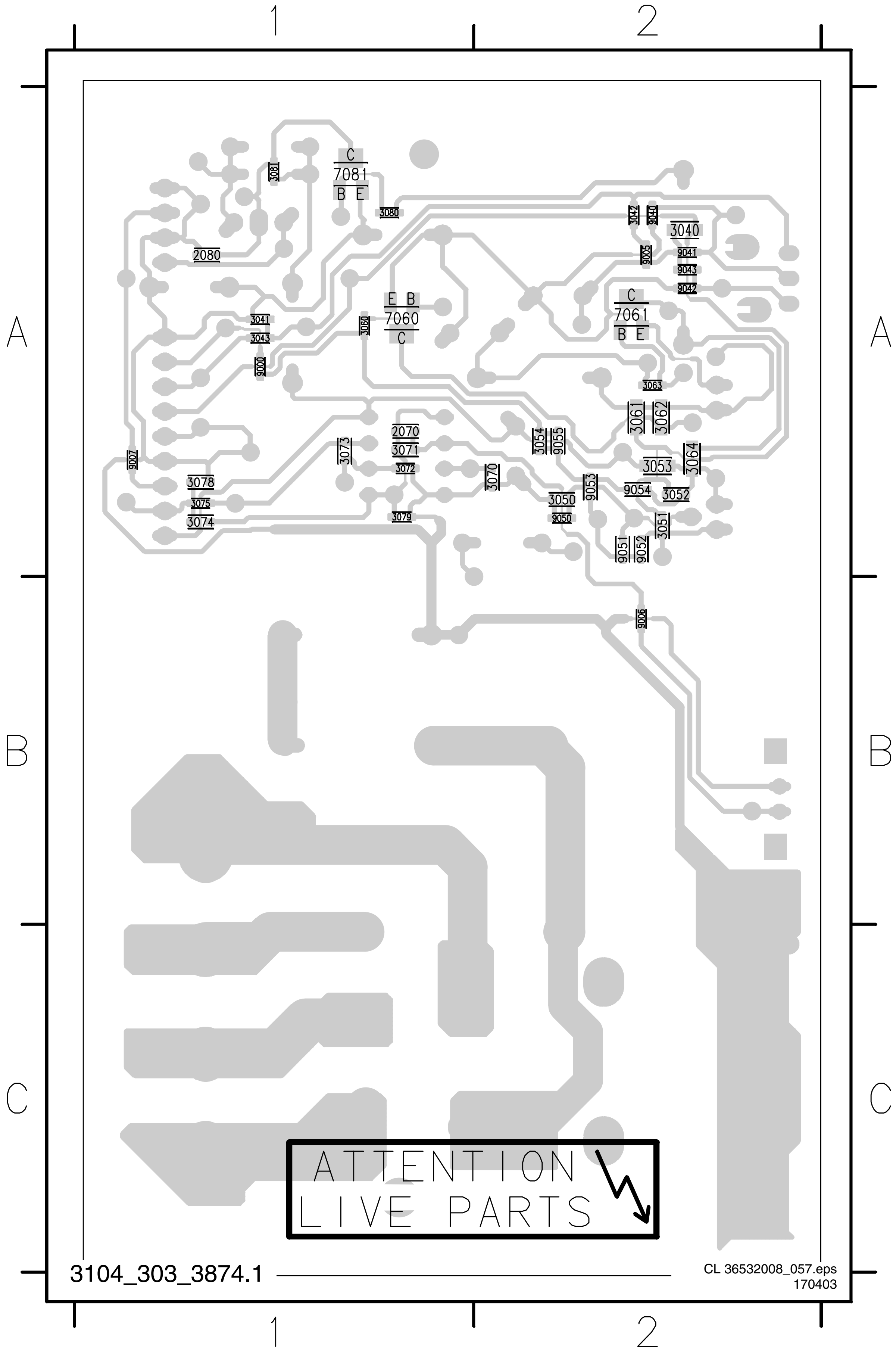
0201	B8
0202	A10
0241	A1
0245	C1
0248	D1
1040	E5
1051	A9
2040	F4
2060	B4
2070	D8
2071	F8
2080	E3
3040	D6
3041	F6
3042	E6
3043	F7
3050	C7
3051	B7
3052	B7
3053	B6
3054	B6
3057	B8
3060	B3
3061	A3
3062	B3
3063	B5
3064	A6
3066	B8
3070	F8
3071	E8
3072	F9
3073	F9
3074	E9
3075	E10
3078	F10
3079	F9
3080	D2
3081	D3
3082	D3
3083	D4
3998	C9
6050	B6
6051	C7
6060	B4
6061	B4
6070	F7
7060	B4
7061	A5
7070-A	E8
7070-B	E9
7080	E3
7081	E3
9040	F6
9041	E6
9042	F6
9043	E6
9050	C7
9051	C6
9052	B6
9053	B6
9054	B6
9055	B6
9096	E1
9097	C9
9098	C9
9099	C9
F001	A2
F002	A2
F003	B2
F004	B2
F005	B2
F006	B2
F007	B2
F008	B1
F009	B2
F010	A8
F011	A8
F012	A9
F013	A9
F014	C9
F015	C10
I001	E2
I002	B8
I003	B8
I004	E3
I005	D3
I006	C7
I007	E5
I008	F6
I009	B3
I010	B3
I011	B3
I012	B7
I013	B4
I014	B5
I015	E9
I016	E8
I017	E8
I018	F9
I019	F10
I020	B6
I021	A5
I022	B7
I023	E6
I024	E6
I025	E3

Layout Mains Switch Panel (FL11 Styling) (Top Side)


1
2
A
B
C
PHILIPS
3083
3082
7080
E B C
0248
0245
9002
9003
1040
2040
2060
9096
9004
0241
6061
6060
2071
7070
6050
3998
3057
3066
6070
ATTENTION
LIVE PARTS
9099
9098
9097
9001
0201
1051
0202
3104_303_3874.1
CL 36532008_058.eps
230403

0201	B2
0202	C2
0241	A2
0245	A2
0248	A2
1040	A1
1051	C2
2040	A1
2060	A1
2071	A1
3057	B2
3066	B2
3082	A2
3083	A2
3998	A1
6050	A1
6051	A1
6060	A1
6061	A1
6070	B1
7070	A2
7080	A2
9001	B2
9002	A2
9003	A1
9004	A2
9096	A2
9097	C1
9098	B1
9099	B1

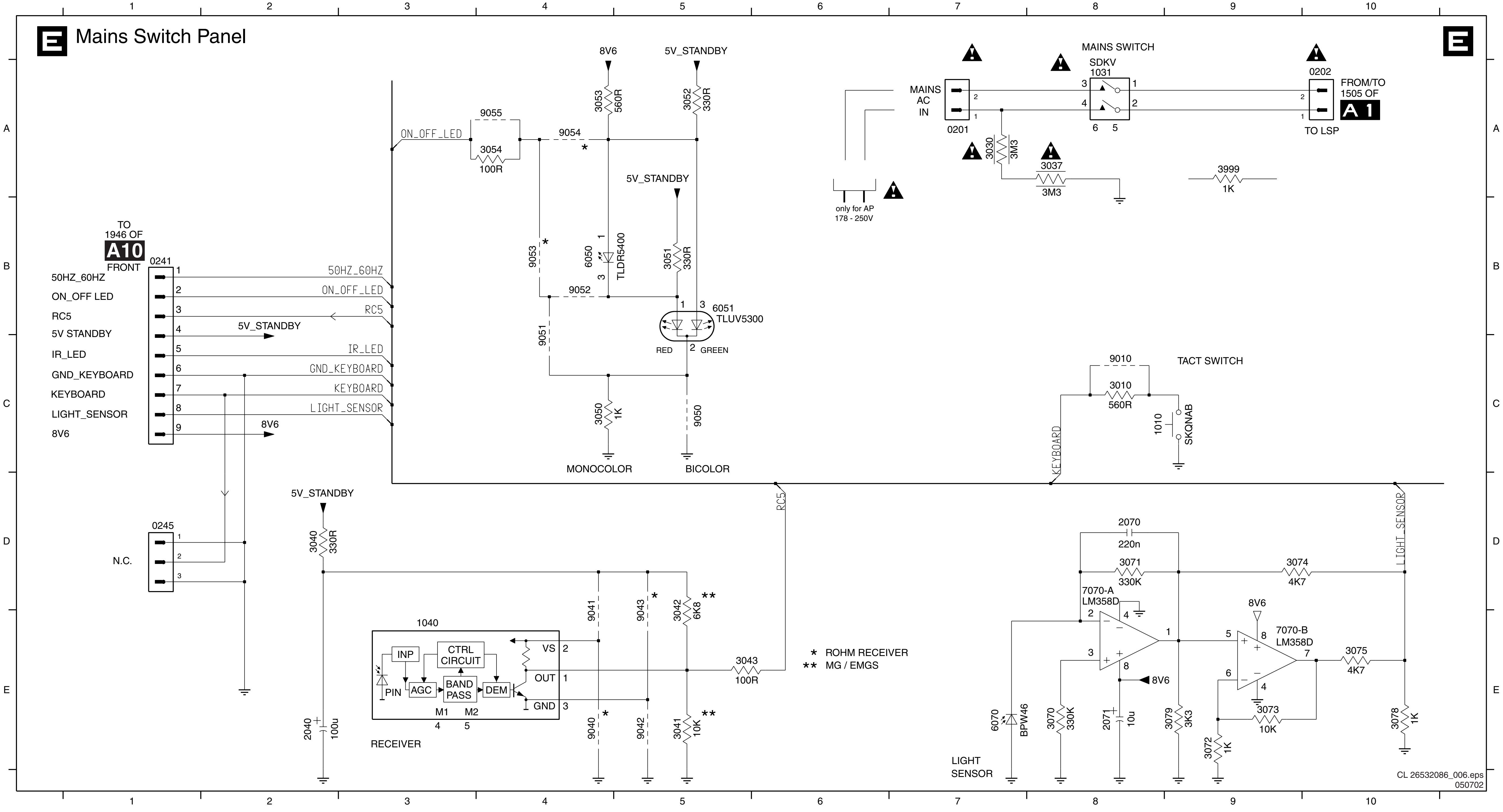
Layout Mains Switch Panel (FL11 Styling) (Bottom Side)


1
2
A
B
C
C
7081
B E
3080
2080
3040
E B
7060
C
C
7061
B E
3061
3062
3053
3064
3054
9055
2070
3071
3072
3073
3070
3078
3075
3074
3079
3050
9050
9053
9054
3052
3051
9051
9052
ATTENTION
LIVE PARTS
3104_303_3874.1
CL 36532008_057.eps
170403

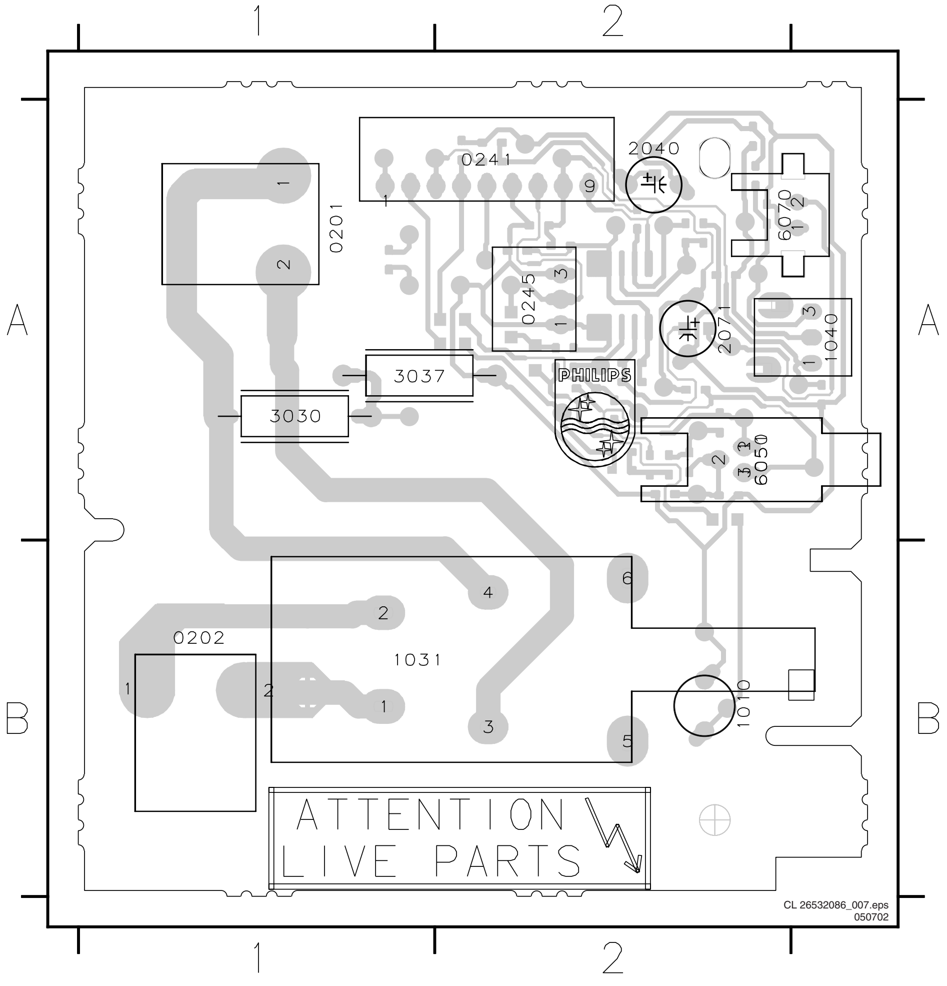
2070	A1
2080	A1
3040	A2
3041	A1
3042	A2
3043	A1
3050	A2
3051	A2
3052	A2
3053	A2
3054	A2
3060	A1
3061	A2
3062	A2
3063	A2
3064	A2
3070	A2
3071	A1
3072	A1
3073	A1
3074	A1
3075	A1
3078	A1
3079	A1
3080	A1
3081	A1
7060	A1
7061	A2
7081	A1
9000	A1
9005	A2
9006	B2
9007	A1
9040	A2
9041	A2
9042	A2
9043	A2
9050	A2
9051	A2
9052	A2
9053	A2
9054	A2
9055	A2

Main Switch Panel (PV2 Styling)

0201 A7
0202 A10
0241 B1
0245 D1
1010 C8
1031 A8
1040 E3
2040 E2
2070 D8
2071 E8
3010 C8
3030 A7
3037 A8
3040 D2
3041 E5
3042 E5
3043 E5
3050 C4
3051 B5
3052 A5
3053 A4
3054 A4
3070 E8
3071 D8
3072 E9
3073 E9
3074 D9
3075 E10
3078 E10
3079 E9
3999 A9
6050 B4
6051 B5
6070 E7
7070-A D8
7070-B E9
9010 C8
9040 E4
9041 E4
9042 E5
9043 E5
9050 C5
9051 C4
9052 B4
9053 B4
9054 A4
9055 A4


E Mains Switch Panel
E
1 2 3 4 5 6 7 8 9 10
A B C D E
8V6
5V_STANDBY
3053 560R
3052 330R
9055
ON_OFF_LED
9054
3054 100R
*
5V_STANDBY
9053 *
6050 TLDR5400
3051 330R
9052
9051
6051 TLUV5300
RED GREEN
3050 1K
9050
MONOCOLOR
BICOLOR
TO 1946 OF A10 FRONT
0241
50HZ_60HZ
ON_OFF LED
RC5
5V STANDBY
IR_LED
GND_KEYBOARD
KEYBOARD
LIGHT_SENSOR
8V6
50HZ_60HZ
ON_OFF_LED
RC5
5V_STANDBY
IR_LED
GND_KEYBOARD
KEYBOARD
LIGHT_SENSOR
8V6
MAINS AC IN
0201
only for AP 178 - 250V
MAINS SWITCH
SDKV 1031
3030 3M3
3037 3M3
3999 1K
0202
FROM/TO 1505 OF A1
TO LSP
9010
TACT SWITCH
3010 560R
1010 SKQNAB
KEYBOARD
5V_STANDBY
0245
N.C.
3040 330R
2040 100u
1040
INP
CTRL CIRCUIT
PIN
AGC
BAND PASS
DEM
VS
OUT
GND
M1 M2
RECEIVER
9041
9043 *
3042 6K8 **
9040 *
9042
3041 10K **
3043 100R
RC5
* ROHM RECEIVER
** MG / EMGS
2070 220n
3071 330K
3074 4K7
LIGHT_SENSOR
7070-A LM358D
8V6
7070-B LM358D
3075 4K7
3073 10K
6070 BPW46
3070 330K
2071 10u
8V6
3079 3K3
3072 1K
3078 1K
LIGHT SENSOR
CL 26532086_006.eps
050702

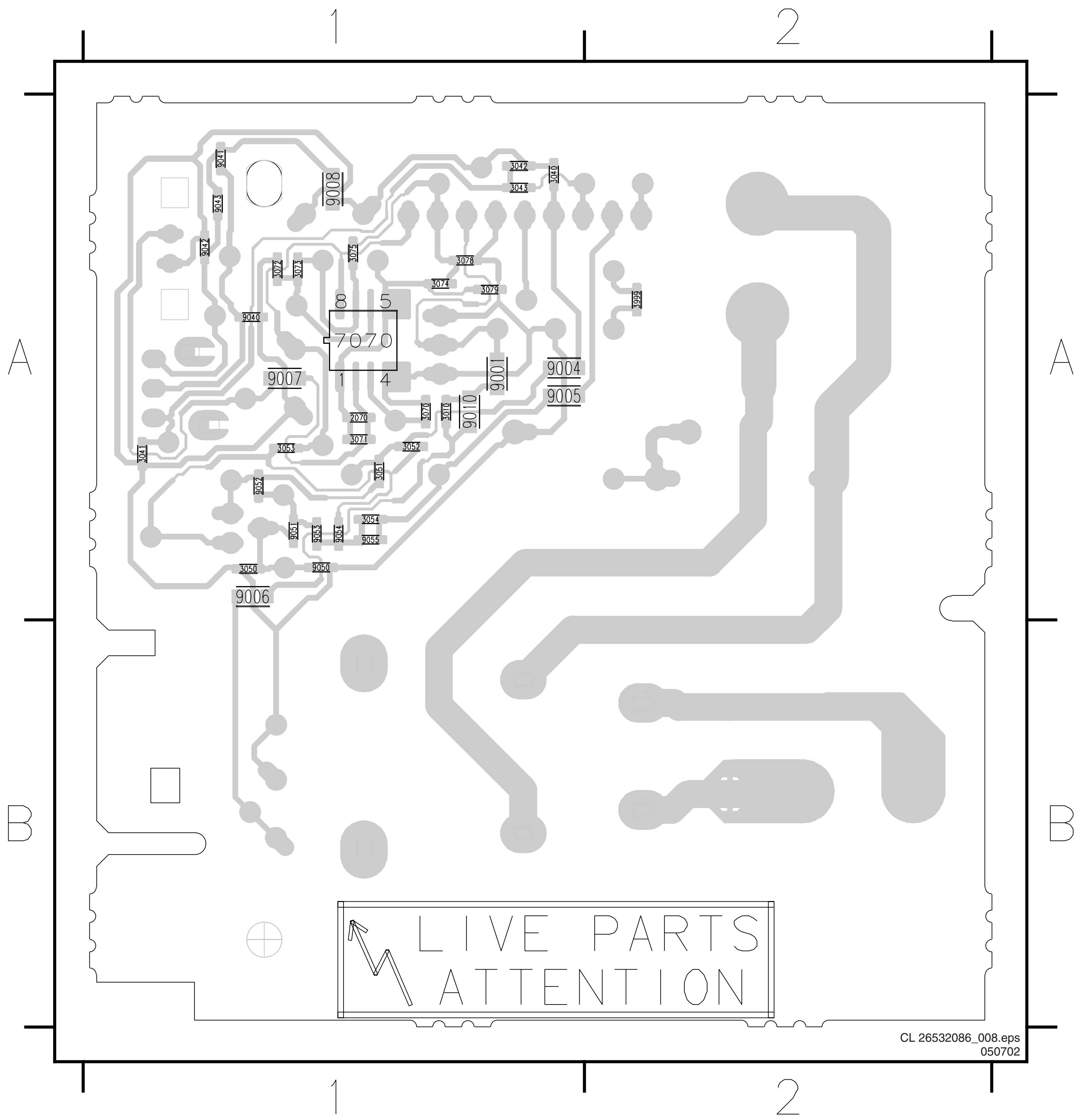
Layout Main Switch Panel (PV2 Styling) (Top Side)


1
2
A
B
0201
0202
0241
0245
1010
1031
1040
2040
2071
3030
3037
6050
6070
PHILIPS
ATTENTION
LIVE PARTS

CL 26532086_007.eps
050702

0201	A1
0202	B1
0241	A2
0245	A2
1010	B2
1031	B2
1040	A2
2040	A2
2071	A2
3030	A1
3037	A2
6050	A2
6051	A2
6070	A2

Layout Main Switch Panel (PV2 Styling) (Bottom Side)

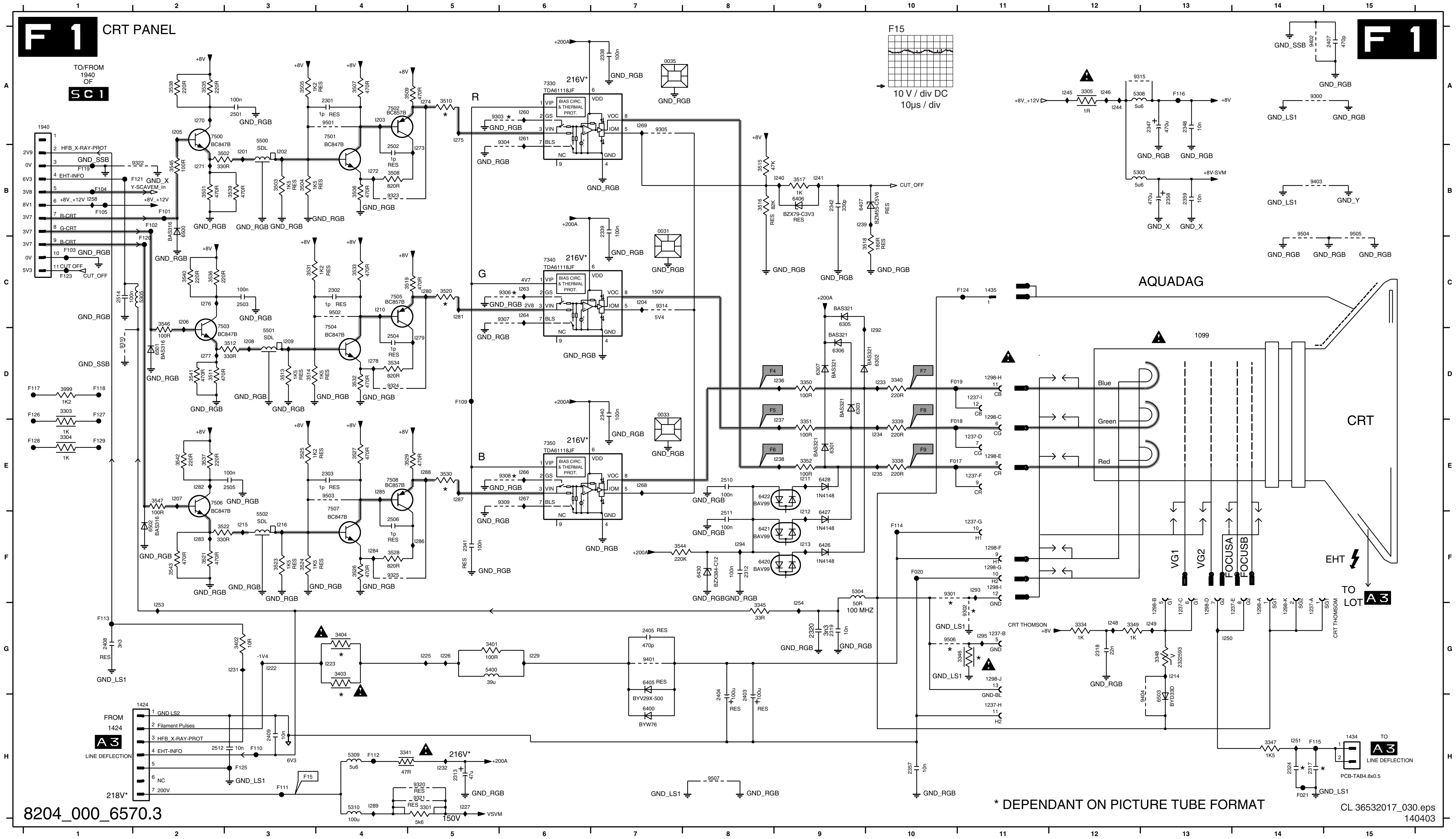

1
2
A
B
9001
9004
9005
9006
9007
9008
9010
7070
LIVE PARTS
ATTENTION

CL 26532086_008.eps
050702

0201	A2
0202	B2
0241	A2
0245	A1
1010	B1
1031	B1
1040	A1
2040	A1
2070	A1
2071	A1
3010	A1
3030	A2
3037	A2
3040	A1
3041	A1
3042	A1
3043	A1
3050	A1
3051	A1
3052	A1
3053	A1
3054	A1
3070	A1
3071	A1
3072	A1
3073	A1
3074	A1
3075	A1
3078	A1
3079	A1
3999	A2
6050	A1
6051	A1
6070	A1
7070	A1
9001	A1
9004	A1
9005	A1
9006	A1
9007	A1
9008	A1
9010	A1
9040	A1
9041	A1
9042	A1
9043	A1
9050	A1
9051	A1
9052	A1
9053	A1
9054	A1
9055	A1

CRT Panel (FL11 Styling)

0031 B7
0033 D7
0035 A7
1237-A F14
1237-B G11
1237-C F13
1237-D E11
1237-E F14
1237-F E11
1237-G F11
1237-H H11
1237-I D11
1298-A F14
1298-B F13
1298-C D11
1298-D F13
1298-E E11
1298-F F11
1298-G F11
1298-H D11
1298-I F11
1298-J G11
1298-K F14
1424 H2
1434 H15
1435 C11
1940 A1
2301 A4
2302 C4
2303 E4
2312 F8
2313 H5
2317 H14
2318 G12
2319 G9
2320 G9
2324 H14
2338 A7
2339 B7
2340 D7
2341 F5
2342 B9
2347 A13
2348 A13
2357 H10
2358 B13
2359 B13
2403 H8
2404 H8
2405 G7
2407 A15
2408 G1
2409 H3
2501 A3
2502 B4
2503 C3
2504 D4
2505 E3
2506 F4
2510 E8
2511 F8
2512 H2
2514 C1
3301 H5
3303 D1
3304 E1
3305 A12
3334 G12
3338 E10
3339 E10
3340 D10
3341 H4
3345 G8
3346 G11
3347 H14
3348 G13
3349 G12
3350 D9
3351 E9
3352 E9
3401 G5
3402 G3
3403 G4
3404 G4
3501 B2
3502 B2
3503 B3
3504 B3
3505 A3
3506 B4
3507 A4
3508 B4
3509 A5
3510 A5
3511 D2
3512 D3
3513 D3
3514 D3
3515 B8
3516 B8
3517 B9
3518 C10
3519 C5
3520 C5
3521 F2
3522 F2
3523 F3
3524 F3
3525 E3
3526 F4
3527 E4
3528 F4
3529 E5
3530 E5
3531 C3
3532 D4
3533 C4
3534 D4
3535 A2
3536 C2
3537 E2
3538 A2
3539 B3
3540 C2
3541 D2
3542 E2
3543 F2
3544 F7
3545 B2
3546 C2
3547 E2
3999 D1
5303 B12
5304 F9
5305 C2
5308 A12
5309 H4
5310 H4
5400 G5
5500 A3
5501 D3
5502 F3
6301 E9
6302 D10
6303 D9
6305 C9
6306 D9
6307 D9
6400 H7
6405 G7
6406 B9
6407 B9
6420 F8
6421 F8
6422 E8
6426 F9
6427 F9
6428 E9
6430 F8
6500 B2
6501 D2
6502 F2
6503 H13
7330 A6
7340 C6
7350 E6
7500 A2
7501 A4
7502 A4
7503 D2
7504 D4
7505 C4
7506 E2
7507 E4
7508 E4
9300 A14
9301 F10
9302 G11
9303 A5
9304 A6
9305 A7
9306 C6
9307 C6
9308 E6
9309 E6
9310 D1
9314 C7
9315 A12
9320 H5
9321 H5
9322 B2
9323 B4
9324 D4
9325 F4
9401 G7
9402 A14
9403 B14
9404 H13
9501 A4
9502 C4
9503 E4
9504 B14
9505 B15
9506 G10
9507 H8
F017 E10
F018 E10
F019 D10
F020 F10
F021 H14
F101 B2
F102 B2
F103 C1
F104 B1
F105 B1
F109 D5
F110 H3
F111 H3
F112 H4
F113 G1
F114 F10
F115 H14
F116 A13
F117 D1
F118 D1
F119 B1
F120 C2
F121 B2
F123 C1
F124 C11
F125 H3
F126 D1
F127 D1
F128 E1
F129 E1
I201 B3
I202 B3
I203 A4
I204 C7
I205 A2
I206 C2
I207 E2
I208 D3
I209 D3
I210 C4
I211 E9
I212 F9
I213 F9
I214 G13
I215 F3
I216 F3
I222 G3
I223 G4
I225 G5
I226 G5
I227 H5
I229 G6
I231 G3
I232 H5
I233 D10
I234 E10
I235 E10
I236 D9
I237 E9
I238 E9
I239 B9
I240 B9
I241 B9
I244 A12
I245 A12
I246 A12
I248 G12
I249 G13
I250 G13
I251 H14
I253 G2
I254 G9
I258 B1
I260 A6
I261 A6
I263 C6
I264 C6
I266 E6
I267 E6
I268 E7
I269 A7
I270 A2
I271 B2
I272 B4
I273 B5
I274 A5
I275 A5
I276 C2
I277 D2
I278 D4
I279 D5
I280 C5
I281 C5
I282 E2
I283 F2
I284 F4
I285 E4
I286 F5
I287 E5
I288 E5
I289 H4
I290 D9
I291 D9
I292 D10
I293 F11
I294 F8
I295 G11

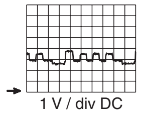

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
A B C D E F G H
F 1
CRT PANEL
TO/FROM
1940
OF
SC1
1940
2V9
0V
6V3
3V8
8V1
3V7
3V7
3V7
0V
5V3
HFB_X-RAY-PROT
GND_SSB
EHT-INFO
+8V_+12V
R-CRT
G-CRT
B-CRT
CUT_OFF
Y-SCAVEM_In
GND_X
GND_RGB
GND_LS1
R
G
B
7330
TDA6111Q/F
7340
TDA6111Q/F
7350
TDA6111Q/F
216V*
+200A
+8V
BIAS CIRC. & THERMAL PROT.
VIP
GS
VIN
BLS
NC
VDD
VOC
IOM
GND
BC847B
BC857B
SDL
F15
10 V / div DC
10µs / div
CUT_OFF
BZX79-C3V3
BZM55-C5V6
BAS321
BAS316
BAV99
1N4148
BZX384-C12
AQUADAG
1099
CRT
Blue
Green
Red
CB
CG
CR
VG1
VG2
FOCUSA
FOCUSB
EHT
TO LOT
A3
CRT THOMSON
100 MHZ
150V
5V4
4V7
2V8
FROM
1424
A3
LINE DEFLECTION
GND LS2
Filament Pulses
HFB_X-RAY-PROT
EHT-INFO
NC
200V
218V*
6V3
BYV29X-500
BYW76
BYD33D
150V
VSVM
+8V-SVM
+8V_+12V
+8V
F116
GND_Y
1434
TO
PCB-TAB4.8x0.5

* DEPENDANT ON PICTURE TUBE FORMAT

8204_000_6570.3

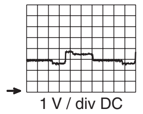
CL 36532017_030.eps
140403

F4



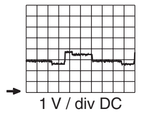
1 V / div DC
5µs / div

F5



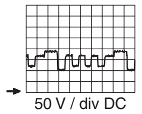
1 V / div DC
5µs / div

F6



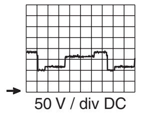
1 V / div DC
5µs / div

F7



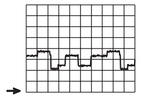
50 V / div DC
5µs / div

F8



50 V / div DC
5µs / div

F9

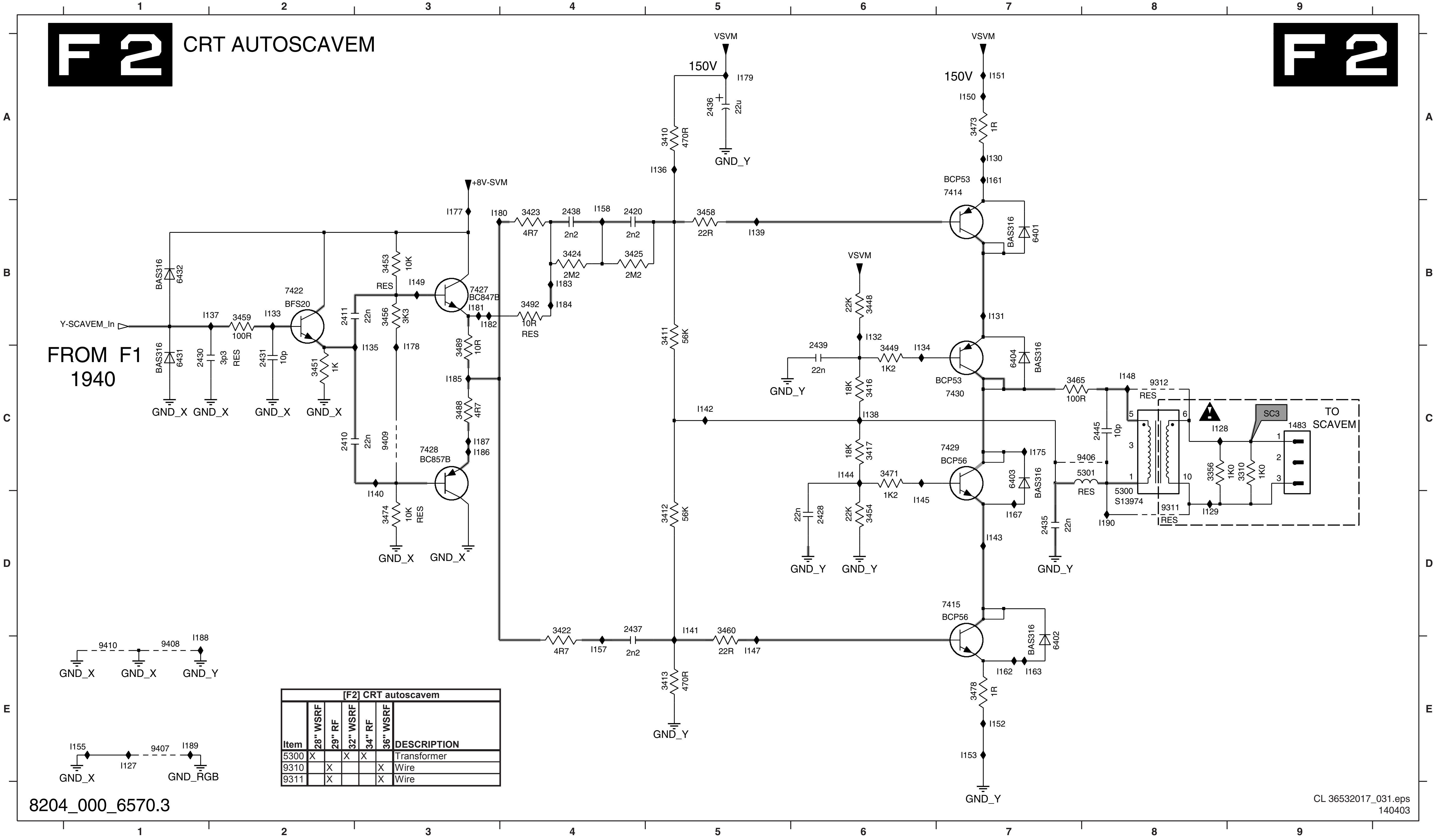


50 V / div DC
5µs / div

[F1] CRT panel						
Item	28" WSRF	29" RF	32" WSRF	34" RF	36" WSRF	DESCRIPTION
1237				X		CRT socket 9p female
1298	X	X			X	CRT socket 10p female
1298			X			CRT socket 11p female
2324	X					1N
2324			X			1N5
2324		X		X	X	4N7
2403		X		X	X	100U
2404		X		X	X	100U
2405		X		X	X	470P
3303				X		FUSE 1K
3304	X	X	X		X	FUSE 1K
3402	X		X		X	10R
3402		X		X		150R
3403		X			X	FUSE 1R
3403				X		FUSE 1R5
3403	X		X			FUSE 1R
3404		X			X	FUSE 1R
3404				X		FUSE 1R5
3510					X	100R
3510	X		X			150R
3510				X		220R
3510		X				560R
3520	X				X	150R
3520				X		220R
3520			X			390R
3520		X				560R
3530	X					150R
3530				X		220R
3530					X	270R
3530			X			390R
3530		X				560R
3999				X		1K5
3999	X					1K8
3999		X				2K2
3999					X	2K7
3999			X			3K9
5400	X		X			33U
5400				X		18U
5400		X				27U
5400					X	39U
6405		X		X	X	BYV29X-500
9301	X	X		X	X	Jumper
9302			X			Jumper
9303	X	X	X		X	Jumper
9306	X	X	X		X	Jumper
9308	X	X	X		X	Jumper
9401	X		X			Jumper

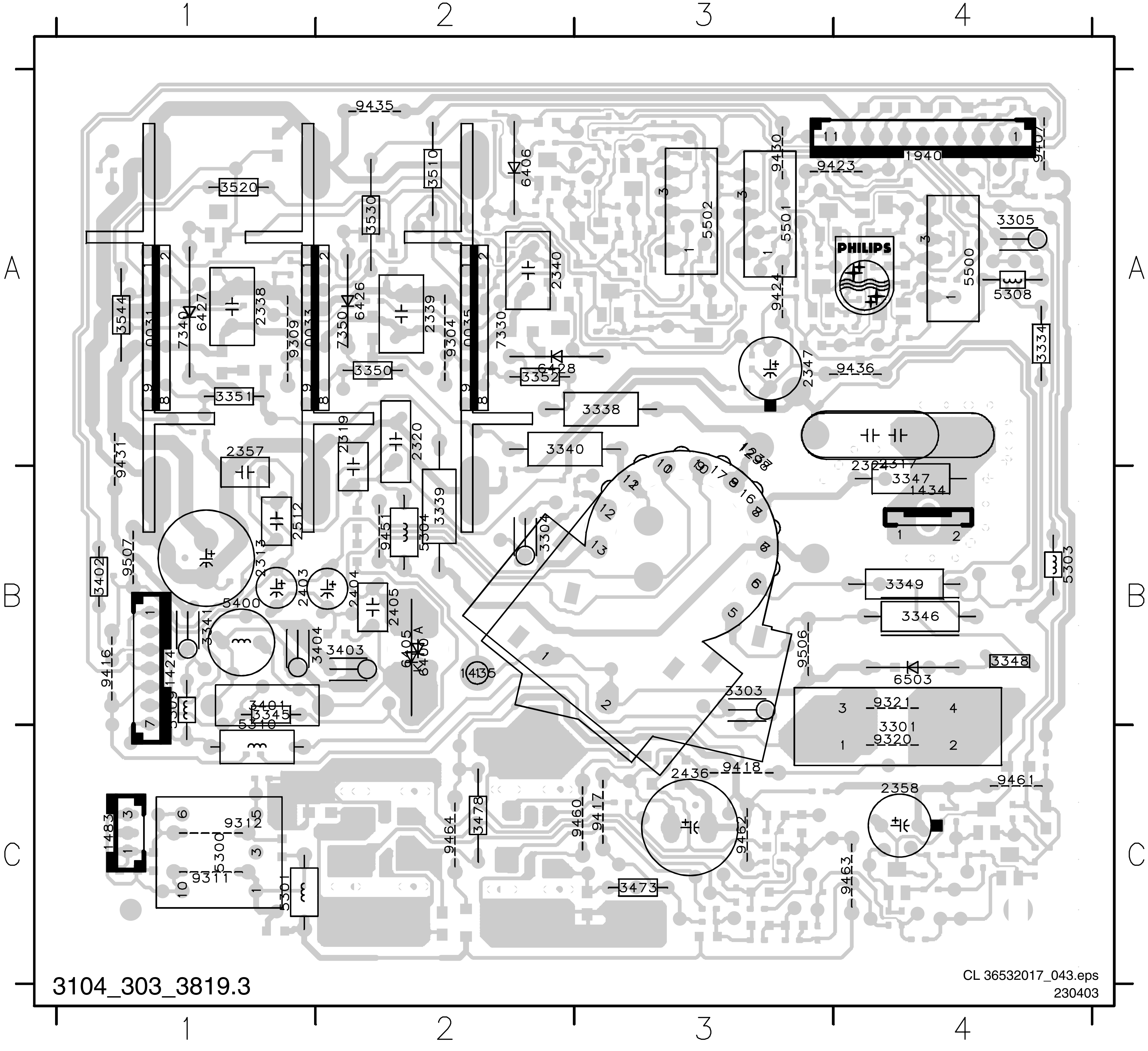
CRT/ Auto SCAVEM Panel (FL11 Styling)

1483 C9	2430 C1	2438 B4	3410 A5	3417 C6	3448 B6	3456 B3	3471 C6	3489 C3	6402 E7	7414 A7	7429 C7	9407 E1	I128 C8	I133 B2	I138 C6	I143 D7	I149 B3	I155 E1	I163 E7	I179 A5	I184 B4	I189 E1
2410 C2	2431 C2	2439 B6	3411 B5	3422 D4	3449 C6	3458 B5	3473 A7	3492 B4	6403 C7	7415 D7	7430 C7	9408 E1	I129 D8	I134 C6	I139 B5	I144 C6	I150 A7	I157 E4	I167 D7	I180 B3	I185 C3	I190 D8
2411 B2	2435 D7	2445 C8	3412 D5	3423 B4	3451 C2	3459 B2	3474 D3	5300 D8	6404 C7	7422 B2	9311 D8	9409 C3	I130 A7	I135 C3	I140 D3	I145 D6	I151 A7	I158 B4	I175 C7	I181 B3	I186 C3	
2420 B4	2436 A5	3310 C9	3413 E5	3424 B4	3453 B3	3460 D5	3478 E7	5301 C8	6431 C1	7427 B3	9312 C8	9410 E1	I131 B7	I136 A5	I141 D5	I147 E5	I152 E7	I161 A7	I177 B3	I182 B3	I187 C3	
2428 D6	2437 D4	3356 C8	3416 C6	3425 B4	3454 D6	3465 C7	3488 C3	6401 B7	6432 B1	7428 C3	9406 C8	I127 E1	I132 B6	I137 B1	I142 C5	I148 C8	I153 E7	I162 E7	I178 C3	I183 B4	I188 D1	


F2
CRT AUTOSCAVEM
F2
FROM F1
1940
Y-SCAVEM_In
TO
SCAVEM
VSVM
150V
+8V-SVM
GND_X
GND_Y
GND_RGB
7422 BFS20
7427 BC847B
7428 BC857B
7414 BCP53
7430 BCP53
7429 BCP56
7415 BCP56
6401 BAS316
6402 BAS316
6403 BAS316
6404 BAS316
6431 BAS316
6432 BAS316
3459 100R
3451 1K
3453 10K
3456 3K3
3474 10K RES
3489 10R
3488 4R7
3423 4R7
3422 4R7
3492 10R RES
3424 2M2
3425 2M2
3410 470R
3413 470R
3411 56K
3412 56K
3458 22R
3460 22R
3448 22K
3416 18K
3417 18K
3454 22K
3449 1K2
3471 1K2
3473 1R
3478 1R
3465 100R
3356 1K0
3310 1K0
2430 3p3 RES
2431 10p
2411 22n
2410 22n
2438 2n2
2420 2n2
2437 2n2
2436 22u
2439 22n
2428 22n
2435 22n
2445 10p
5301 RES
5300 S13974
9312 RES
9311 RES
9406
9409
9410
9408
9407
1483
SC3
1
2
3
4
5
6
7
8
9
A
B
C
D
E
8204_000_6570.3
CL 36532017_031.eps
140403

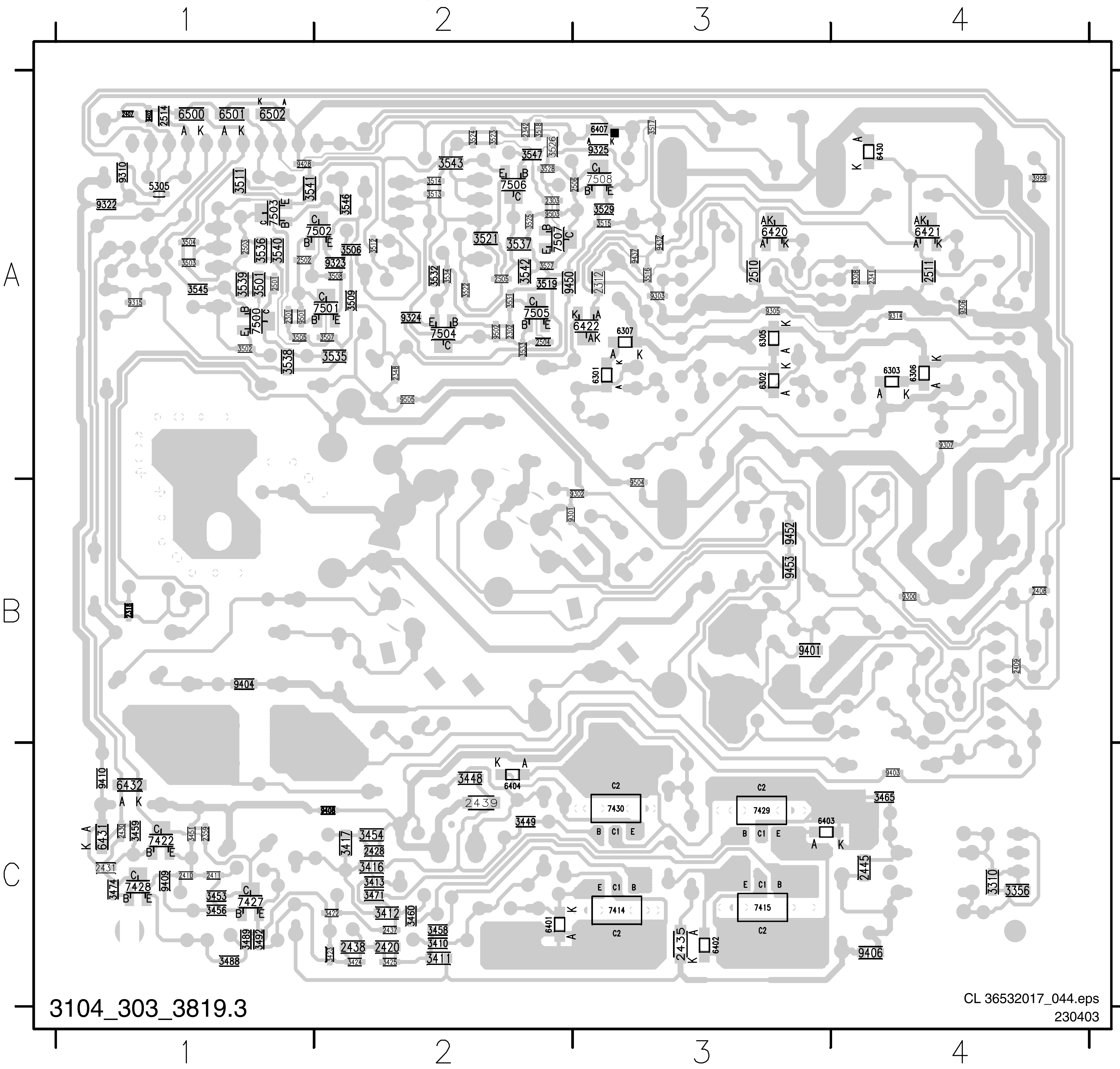
[F2] CRT autoscavem						
Item	28" WSRF	29" RF	32" WSRF	34" RF	36" WSRF	DESCRIPTION
5300	X		X	X		Transformer
9310		X			X	Wire
9311		X			X	Wire

Layout CRT / Auto SCAVEM Panel (FL11 Styling) (Top Side)


1
2
3
4
A
B
C
9435
3510
6406
9430
9423
1940
11
1
9407
3520
3530
5502
5501
3305
5500
5308
3544
0031
7340
6427
2338
9309
0033
7350
6426
2339
9304
0035
7330
2340
9424
PHILIPS
3334
3350
6428
3352
2347
9436
3351
3338
3340
1237
2324
2317
3347
1434
9431
2357
2319
2320
3339
2512
9451
5304
3304
9507
3402
2313
2403
2404
2405
5400
5303
3349
3346
3341
3404
3403
6405
6400
9416
1424
1435
9506
3348
6503
3401
3345
5310
5309
3303
9321
3301
9320
2436
9418
9461
2358
1483
9312
5300
9311
5301
9464
3478
9460
9417
9462
9463
3473
3104_303_3819.3
CL 36532017_043.eps
230403

0031	A1
0033	A1
0035	A2
1237	A3
1298	C3
1424	B1
1434	B4
1435	B2
1483	C1
1940	A4
2313	B1
2317	A4
2319	B2
2320	A2
2324	A4
2338	A1
2339	A2
2340	A2
2347	A3
2357	A1
2358	C4
2403	B1
2404	B2
2405	B2
2436	C3
2512	B1
3301	C4
3303	C3
3304	B2
3305	A4
3334	A4
3338	A3
3339	B2
3340	B2
3341	B1
3345	B1
3346	B4
3347	B4
3348	B4
3349	B4
3350	A2
3351	A1
3352	A2
3401	B2
3402	B1
3403	B2
3404	B1
3473	C3
3478	C2
3510	A2
3520	A1
3530	A2
3544	A1
5300	C1
5301	C2
5303	B4
5304	B2
5308	A4
5309	C1
5310	C1
5400	B1
5500	A4
5501	A3
5502	A3
6400	B2
6405	B2
6406	A2
6426	A2
6427	A1
6428	A2
6503	B4
7330	A2
7340	A1
7350	A2
9304	A2
9309	A1
9311	C1
9312	C1
9320	C4
9321	B4
9407	A4
9416	B1
9417	C3
9418	C3
9423	A4
9424	A3
9430	A3
9431	A1
9435	A2
9436	A4
9451	B2
9460	C2
9461	C4
9462	C3
9463	C4
9464	C2
9506	B3
9507	B1

Layout CRT / Auto SCAVEM Panel (FL11 Styling) (Bottom Side)


1
2
3
4
A
B
C
6500
6501
6502
2514
9310
5305
9322
3511
3541
3546
7503
7502
3506
3504
3503
2503
3536
3540
3545
3539
3501
9315
7500
7501
3509
3538
3535
3543
7506
3547
3526
6407
9325
7508
3529
3521
3537
7507
3532
3542
3519
9450
2312
9324
7504
7505
6422
6307
6301
6420
6421
2510
2511
6430
3999
6305
6302
6303
6306
9302
9504
9452
9453
9300
2408
9401
9404
2318
2409
9410
6432
6431
7422
7428
7427
9409
3474
3453
3456
3489
3492
3488
3417
3454
2428
3416
3413
3471
3412
3460
2438
2420
3458
3410
3411
3448
6404
2439
3449
7430
7429
3465
6403
6401
7414
7415
2435
6402
2445
9406
3310
3356

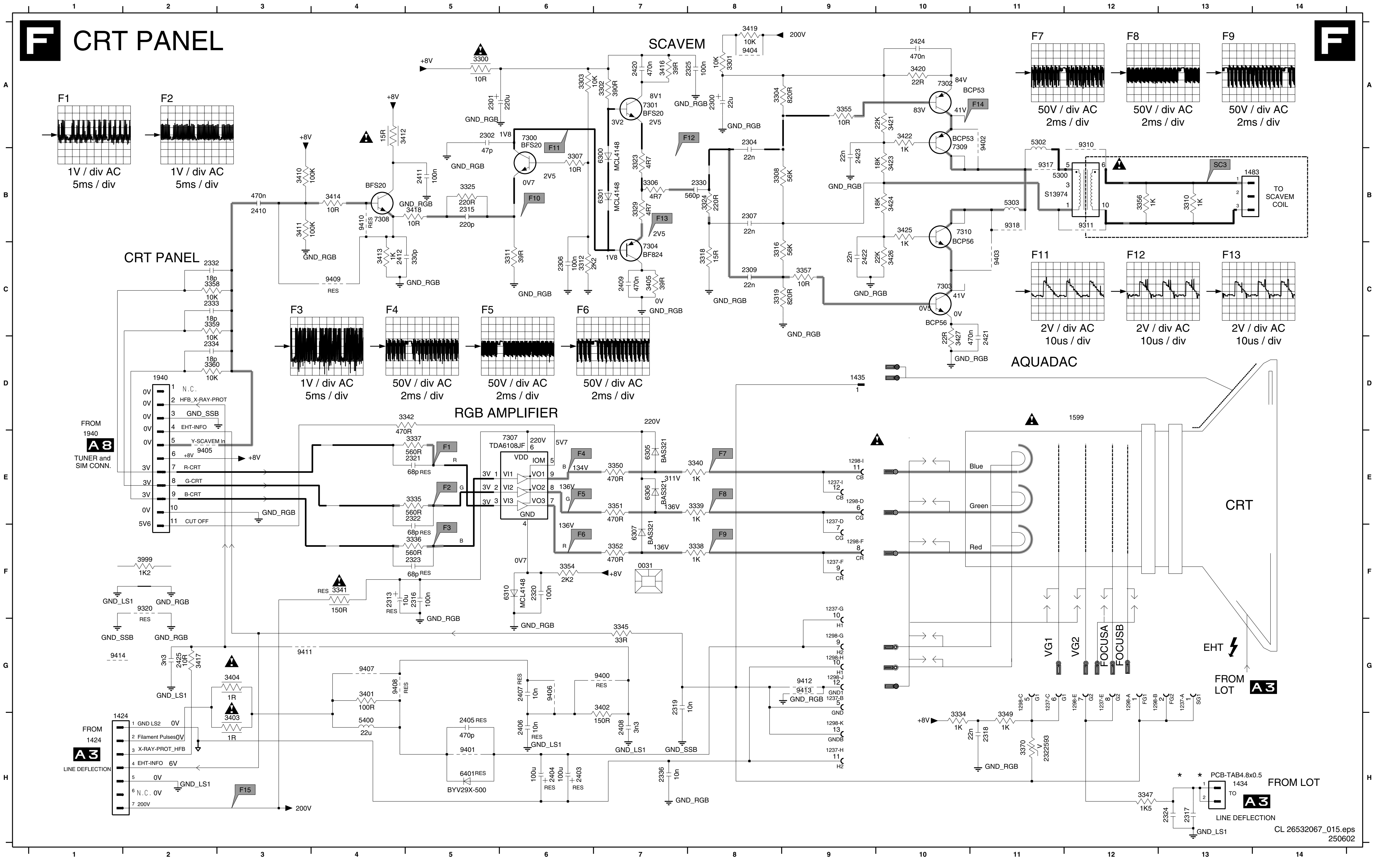
3104_303_3819.3

CL 36532017_044.eps
230403

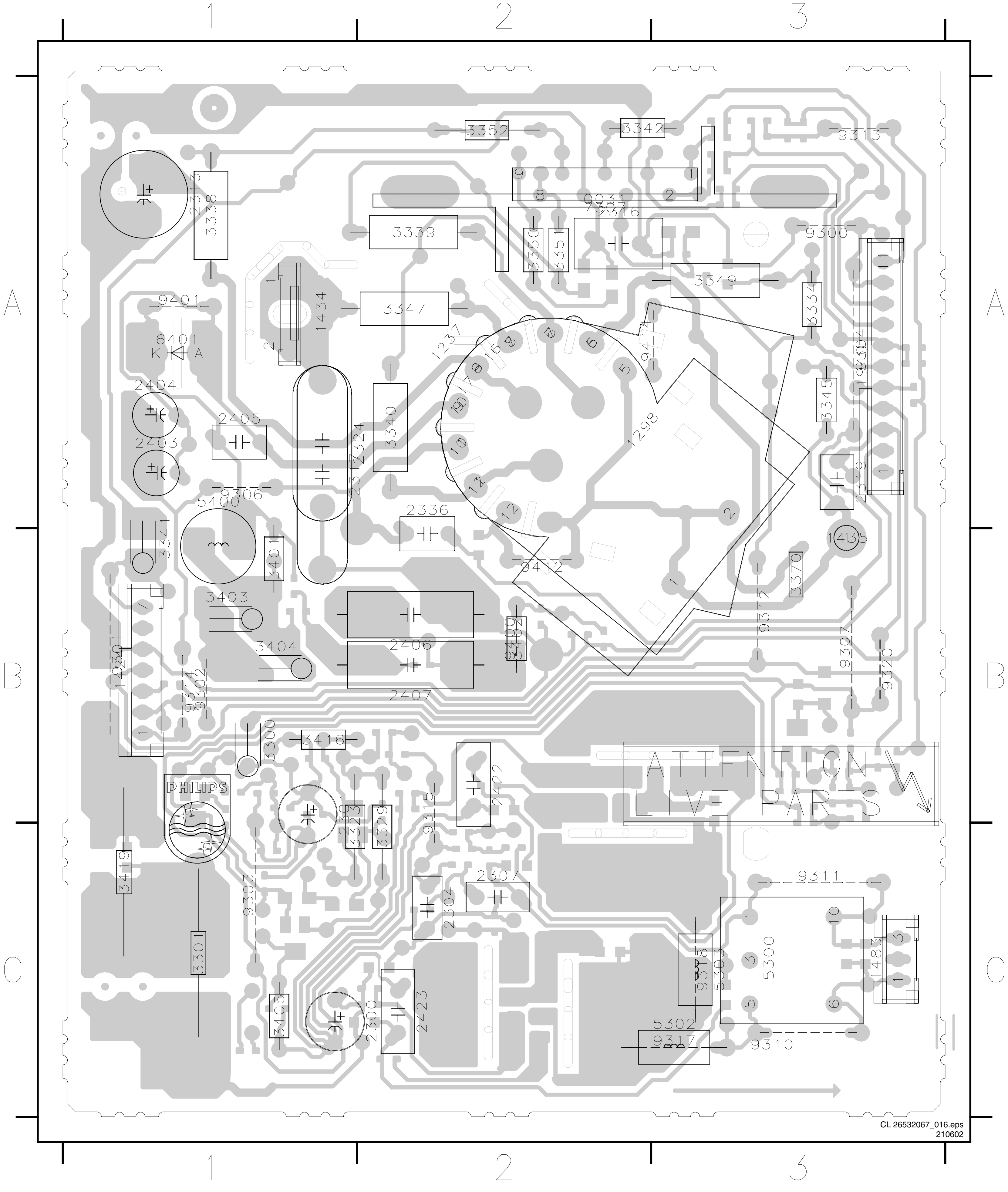
2301	A1
2302	A2
2303	A2
2312	A3
2318	B1
2341	A4
2342	A2
2348	A2
2359	C1
2407	A1
2408	B4
2409	B4
2410	C1
2411	C1
2420	C2
2428	C2
2430	C1
2431	C1
2435	C3
2437	C2
2438	C2
2439	C2
2445	C4
2501	A1
2502	A1
2503	A1
2504	A2
2505	A2
2506	A3
2510	A3
2511	A4
2514	A1
3310	C4
3356	C4
3410	C2
3411	C2
3412	C2
3413	C2
3416	C2
3417	C2
3422	C2
3423	C2
3424	C2
3425	C2
3448	C2
3449	C2
3451	C1
3453	C1
3454	C2
3456	C1
3458	C2
3459	C1
3460	C2
3465	C4
3471	C2
3474	C1
3488	C1
3489	C1
3492	C1
3501	A1
3502	A1
3503	A1
3504	A1
3505	A1
3506	A2
3507	A2
3508	A2
3509	A2
3511	A1
3512	A2
3513	A2
3514	A2
3515	A3
3516	A3
3517	A3
3518	A2
3519	A2
3521	A2
3522	A2
3523	A2
3524	A2
3525	A2
3526	A2
3527	A2
3528	A2
3529	A3
3531	A2
3532	A2
3533	A2
3534	A2
3535	A2
3536	A1
3537	A2
3538	A1
3539	A1
3540	A1
3541	A1
3542	A2
3543	A2
3545	A1
3546	A2
3547	A2
3999	A4
5305	A1
6301	A3
6302	A3
6303	A4
6305	A3
6306	A4
6307	A3
6401	C2
6402	C3
6403	C4
6404	C2
6407	A3
6420	A3
6421	A4
6422	A2
6430	A4
6431	C1
6432	C1
6500	A1
6501	A1
6502	A1
7414	C3
7415	C3
7422	C1
7427	C1
7428	C1
7429	C3
7430	C2
7500	A1
7501	A2
7502	A1
7503	A1
7504	A2
7505	A2
7506	A2
7507	A3
7508	A3
9300	B4
9301	B2
9302	B3
9303	A3
9305	A3
9306	A4
9307	A4
9308	A4
9310	A1
9314	A4
9315	A1
9322	A1
9323	A2
9324	A2
9325	A3
9401	B3
9402	A1
9403	C4
9404	B1
9406	C4
9408	C2
9409	C1
9410	C1
9428	A1
9432	A3
9437	A3
9450	A2
9452	B3
9453	B3
9501	A1
9502	A2
9503	A2
9504	B3
9505	A2

CRT Panel (PV2 Styling)

0031	F7
1237-A	G13
1237-B	G9
1237-C	G11
1237-D	E9
1237-E	G12
1237-F	F9
1237-G	F9
1237-H	H9
1237-I	E9
1298-A	G12
1298-B	G12
1298-C	G11
1298-D	E9
1298-E	G12
1298-F	F9
1298-G	G9
1298-H	G9
1298-I	E9
1298-J	G9
1298-K	H9
1424	H2
1434	H13
1435	D9
1483	B13
1940	D2
2300	A8
2301	A5
2302	A5
2304	A8
2306	C6
2307	B8
2309	C8
2313	F4
2315	B5
2316	F5
2317	H13
2318	H11
2319	G7
2320	F6
2321	E5
2322	E5
2323	F5
2324	H13
2325	A8
2330	B8
2332	C2
2333	C2
2334	D2
2336	H7
2403	H6
2404	H6
2405	H5
2406	H6
2407	G6
2408	H7
2409	C7
2410	B3
2411	B5
2412	C4
2420	A7
2421	D11
2422	C9
2423	B9
2424	A10
2425	G2
3300	A5
3301	A8
3302	A7
3303	A6
3304	A8
3306	B7
3307	B6
3308	B8
3310	B13
3311	C6
3312	C6
3316	C8
3318	C8
3319	C8
3323	B7
3324	B8
3325	B5
3329	B7
3334	H10
3335	E5
3336	F5
3337	E5
3338	F8
3339	E8
3340	E8
3341	F4
3342	D5
3345	G7
3347	H12
3349	H11
3350	E7
3351	E7
3352	F7
3354	F6
3355	A9
3356	B12
3357	C9
3358	C2
3359	C2
3360	D2
3370	H11
3401	G4
3402	G7
3403	H3
3404	G3
3405	C7
3410	B3
3411	B3
3412	A4
3413	C4
3414	B4
3416	A7
3417	G2
3418	B5
3419	A8
3420	A10
3421	A10
3422	A10
3423	B10
3424	B10
3425	B10
3426	C10
3427	D10
3999	F2
5300	B11
5302	A11
5303	B11
5400	H4
6300	B7
6301	B7
6305	E7
6306	E7
6307	F7
6310	F6
6401	H5
7300	A6
7301	A7
7302	A10
7303	C10
7304	C7
7307	E6
7308	B4
7309	A10
7310	B10
9310	A12
9311	B12
9317	B11
9318	B11
9320	F2
9400	G7
9401	H5
9402	A11
9403	C11
9404	A8
9405	E2
9406	G6
9407	G4
9408	G4
9409	C4
9410	B4
9411	G3
9412	G9
9413	G9
9414	G1
9415	G1


F
CRT PANEL
SCAVEM
CRT PANEL
RGB AMPLIFIER
AQUADAC
CRT
F1
1V / div AC
5ms / div
F2
1V / div AC
5ms / div
F3
1V / div AC
5ms / div
F4
50V / div AC
2ms / div
F5
50V / div AC
2ms / div
F6
50V / div AC
2ms / div
F7
50V / div AC
2ms / div
F8
50V / div AC
2ms / div
F9
50V / div AC
2ms / div
F11
2V / div AC
10us / div
F12
2V / div AC
10us / div
F13
2V / div AC
10us / div
+8V
200V
3300 10R
3419 10K 9404
3301 10K
2424 470n
3420 22R
7302 BCP53
7309 BCP53
7310 BCP56
7303 BCP56
7300 BFS20
7301 BFS20
7304 BF824
7308 BFS20
84V
83V
41V
8V1
3V2
2V5
1V8
0V7
0V
F14
F10
F15
SC3
5302
9310
9317
5300 S13974
9311
5303
9318
1483
TO SCAVEM COIL
3356 1K
3310 1K
1940
N.C.
HFB_X-RAY-PROT
GND_SSB
EHT-INFO
Y-SCAVEM In
+8V
R-CRT
G-CRT
B-CRT
CUT OFF
FROM 1940
A8
TUNER and SIM CONN.
9405
7307 TDA6108JF
VDD
IOM
VI1
VI2
VI3
VO1
VO2
VO3
GND
220V
5V7
134V
136V
311V
6305 BAS321
6306 BAS321
6307 BAS321
3350 470R
3351 470R
3352 470R
3340 1K
3339 1K
3338 1K
3337 560R
3335 560R
3336 560R
3342 470R
1435
1599
Blue
Green
Red
VG1
VG2
FOCUSA
FOCUSB
EHT
FROM LOT
A3
1424
GND LS2
Filament Pulses
X-RAY-PROT_HFB
EHT-INFO
N.C.
200V
FROM 1424
A8
LINE DEFLECTION
6401 BYV29X-500
9401
2405 470p
5400 22u
3401 100R
3402 150R
3403 1R
3404 1R
3345 33R
3341 150R
3354 2K2
6310 MCL4148
3334 1K
3349 1K
3370 2322593
3347 1K5
PCB-TAB4.8x0.5
1434
TO
A3
FROM LOT
LINE DEFLECTION
GND_RGB
GND_SSB
GND_LS1
3999 1K2
9320
9414
CL 26532067_015.eps
250602

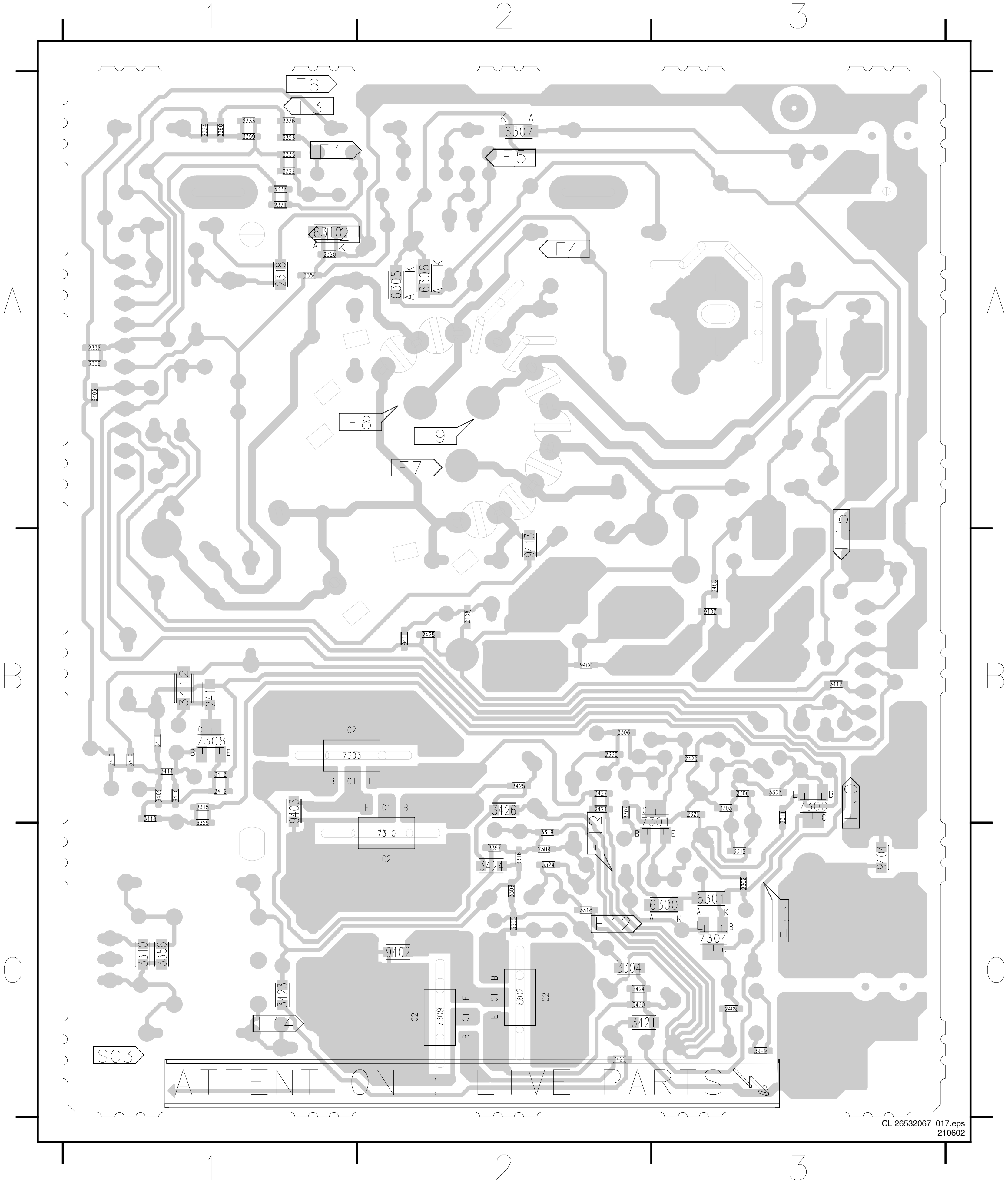
Layout CRT Panel (PV2 Styling) (Top Side)


1
2
3
A
B
C
3352
3342
9313
2313
3338
0031
2316
3339
3350
3351
9300
3349
9401
1434
3347
3334
6401
K
A
1237
9414
1940
9304
2404
2405
3340
3345
2403
2324
2317
1298
2319
9306
5400
2336
1435
3341
3401
9412
3370
3403
9312
9400
3402
3404
2406
9307
9320
1424
9301
9314
9302
2407
3300
3416
ATTENTION
LIVE PARTS
PHILIPS
2301
3323
3329
9315
2422
3419
2307
9303
2304
9311
3301
5300
1483
9318
5303
3405
2300
2423
5302
9317
9310

CL 26532067_016.eps
210602

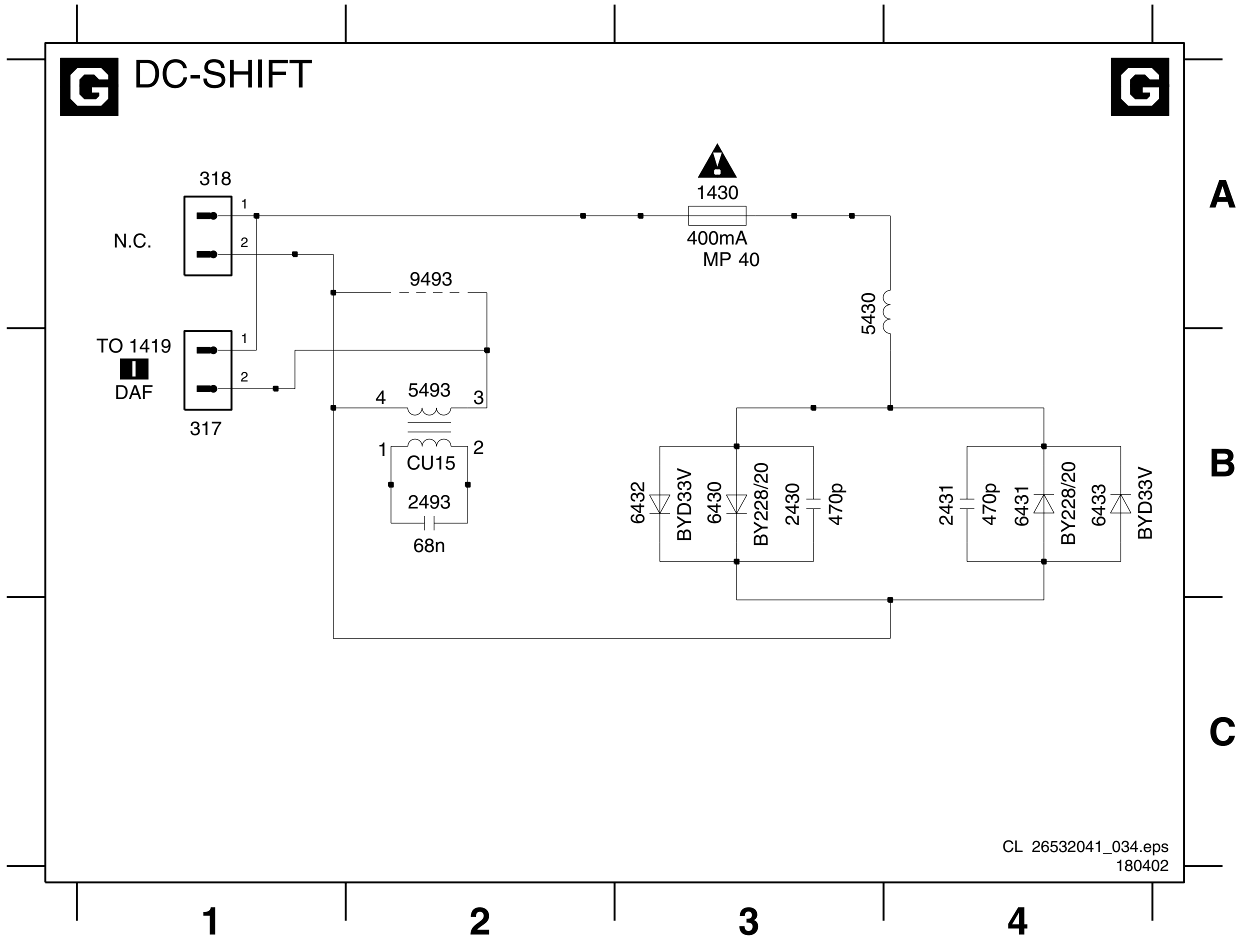
0031	A2
1237	A2
1298	A2
1424	B1
1434	A1
1435	A3
1483	C3
1940	A3
2300	C1
2301	B1
2304	C2
2307	C2
2313	A1
2316	A2
2317	B2
2319	A3
2324	A2
2336	A2
2403	A1
2404	A1
2405	A1
2406	B2
2407	B2
2422	B2
2423	C2
3300	B1
3301	C1
3323	C1
3329	C2
3334	A3
3338	A1
3339	A2
3340	A2
3341	A1
3342	A2
3345	A3
3347	A2
3349	A3
3350	A2
3351	A2
3352	A2
3370	B3
3401	B1
3402	B2
3403	B1
3404	B1
3405	C1
3416	B1
3419	C1
5300	C3
5302	C3
5303	C3
5400	A1
6401	A1
7307	A2
9300	A3
9301	B1
9302	B1
9303	C1
9304	A3
9306	A1
9307	B3
9310	C3
9311	C3
9312	B3
9313	A3
9314	B1
9315	B2
9317	C3
9318	C3
9320	B3
9400	B2
9401	A1
9412	B2
9414	A2

Layout CRT Panel (PV2 Styling) (Bottom Side)


1
2
3
A
B
C
F6
F3
F1
F5
F4
F8
F9
F7
F15
F10
F13
F12
F11
F14
SC3
6307
6302
6305
6306
2318
9413
3412
2411
7308
7303
7310
7301
7300
7304
7309
7302
9403
9404
9402
3426
3424
6300
6301
3304
3421
3310
3356
3423
C2
B C1 E
E C1 B
ATTENTION - LIVE PARTS
CL 26532067_017.eps
210602

2302	C3
2306	B3
2309	C2
2315	B1
2318	A1
2320	A1
2321	A1
2322	A1
2323	A1
2325	B3
2330	B2
2332	A1
2333	A1
2334	A1
2408	B2
2409	C3
2410	B1
2411	B1
2412	B1
2420	B3
2421	B2
2424	C2
2425	B2
3302	B2
3303	B3
3304	C2
3306	B2
3307	B3
3308	C2
3310	C1
3311	B3
3312	C3
3316	C2
3318	C2
3319	C2
3324	C2
3325	B1
3335	A1
3336	A1
3337	A1
3354	A1
3355	C2
3356	C1
3357	C2
3358	A1
3359	A1
3360	A1
3410	B1
3411	B1
3412	B1
3413	B1
3414	B1
3417	B3
3418	B1
3420	C2
3421	C2
3422	C2
3423	C1
3424	C2
3425	B2
3426	B2
3427	B2
3999	C3
6300	C3
6301	C3
6305	A2
6306	A2
6307	A2
6310	A1
7300	C3
7301	B3
7302	C2
7303	B1
7304	C3
7308	B1
7309	C2
7310	C1
9402	C2
9403	B1
9404	C3
9405	A1
9406	B2
9407	B3
9408	B3
9409	B1
9410	B1
9411	B2
9413	B2

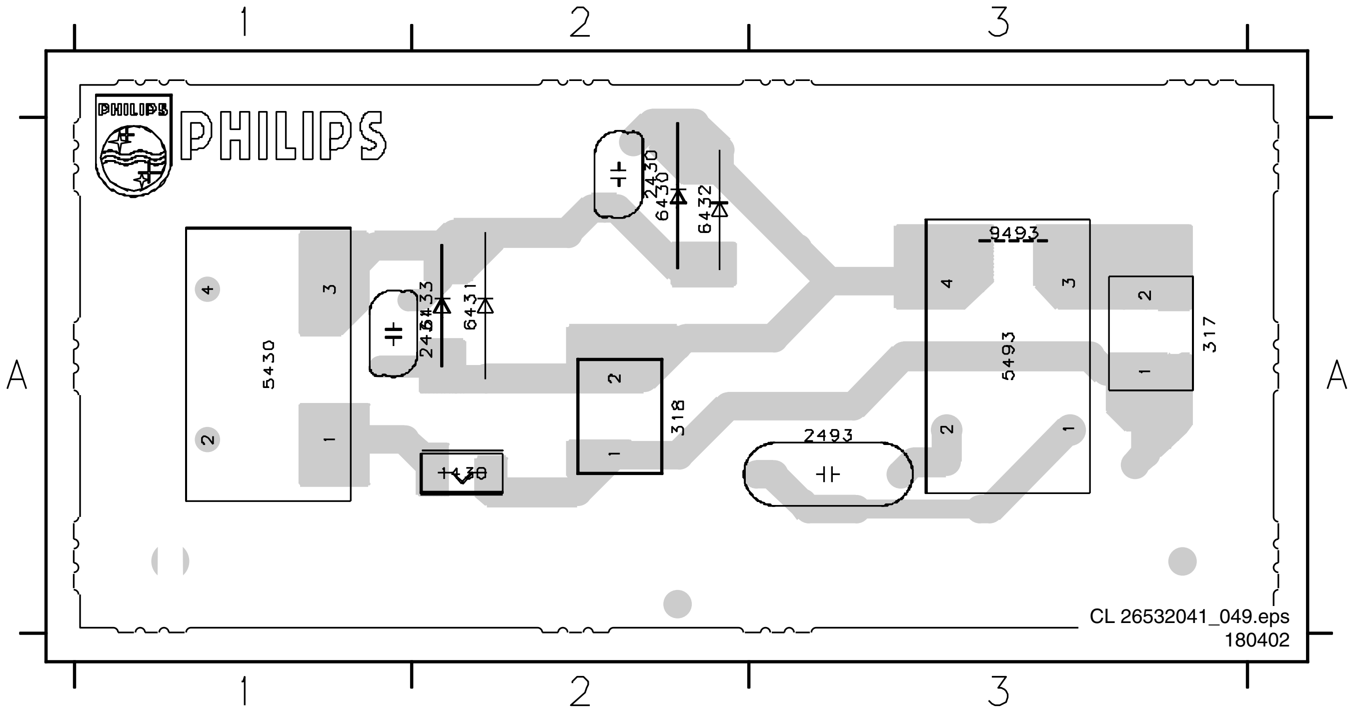
DC Shift Panel


G DC-SHIFT G
318
N.C.
1
2
TO 1419
DAF
317
1430
400mA
MP 40
9493
5493
4
3
1
2
CU15
2493
68n
5430
6432
BYD33V
6430
BY228/20
2430
470p
2431
470p
6431
BY228/20
6433
BYD33V
A
B
C
1
2
3
4
CL 26532041_034.eps
180402

317	B1
318	A1
1430	A3
2430	B3
2431	B4
2493	B2
5430	A3
5493	B2
6430	B3
6431	B4
6432	B3
6433	B4

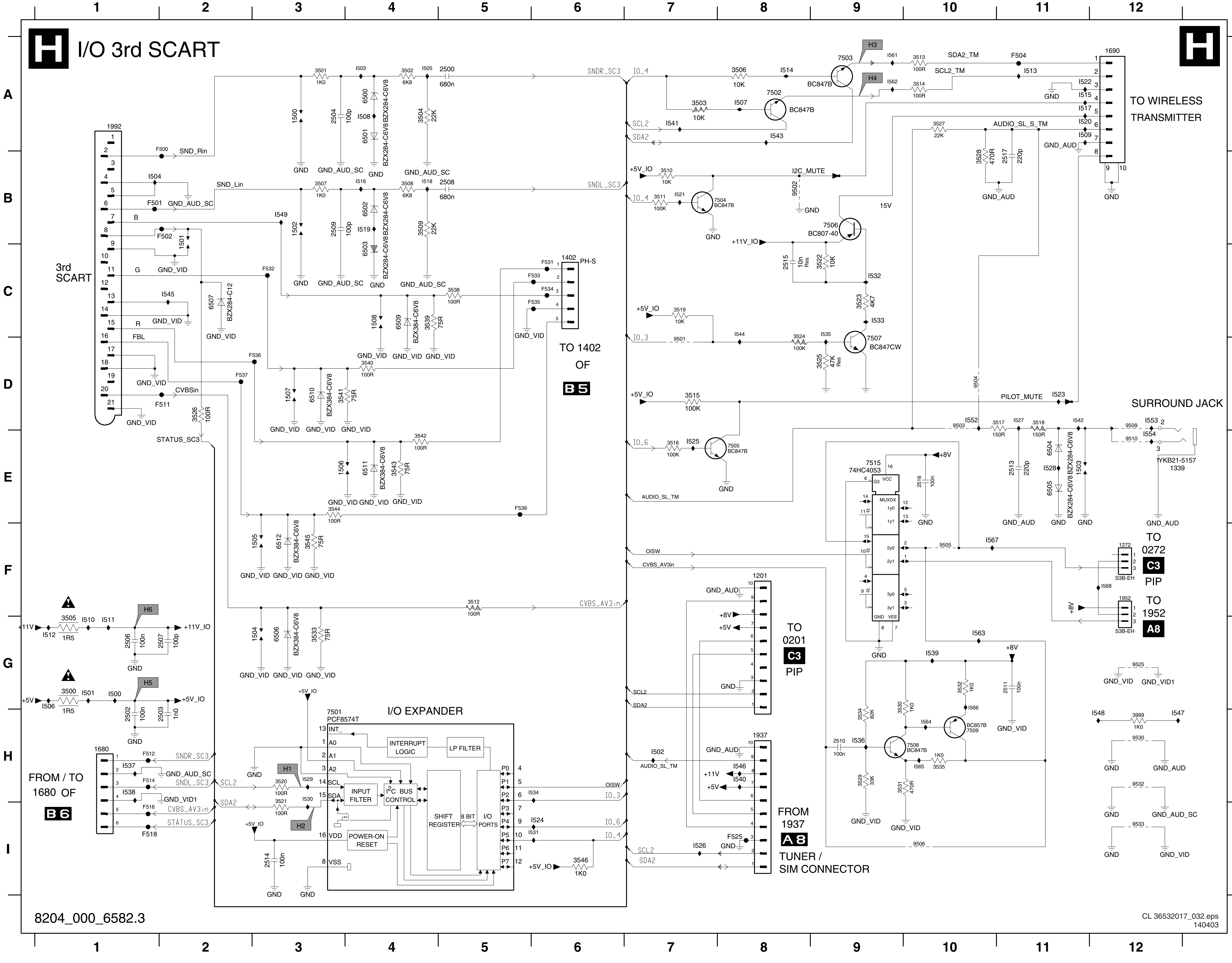
Layout DC Shift Panel

317	A3	2430	A2	5430	A1	6431	A2	9493	A3
318	A2	2431	A1	5493	A3	6432	A2		
1430	A2	2493	A3	6430	A2	6433	A2		


1
2
3
A
A
PHILIPS
PHILIPS
5430
4
3
2
1
2431
6433
6431
2430
6430
6432
1430
318
2
1
2493
9493
5493
4
3
2
1
317
2
1
CL 26532041_049.eps
180402

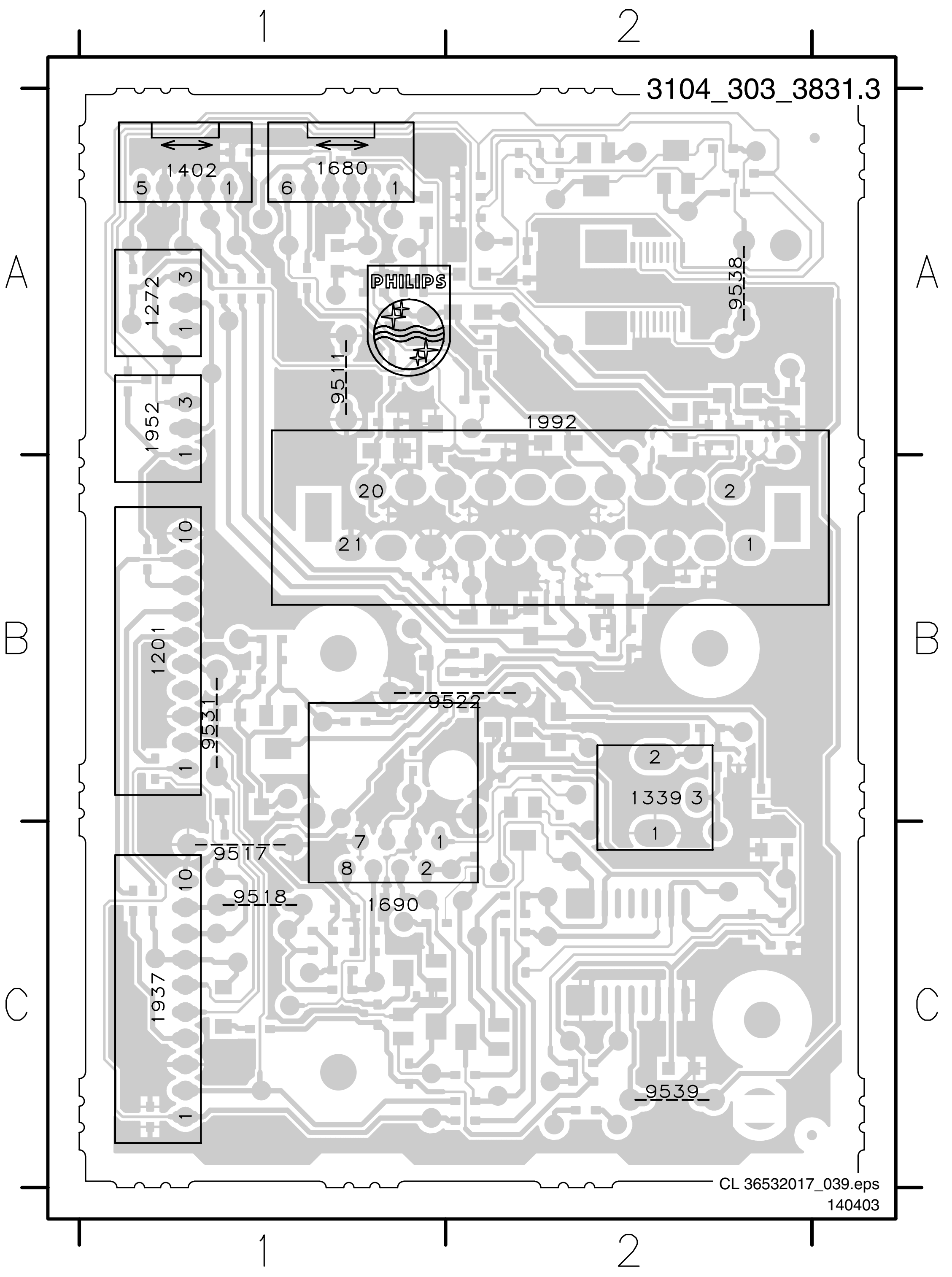
Personal Notes:

I/O 3rd Scart


H
I/O 3rd SCART
1992
3rd SCART
SND_Rin
SND_Lin
GND_AUD_SC
GND_VID
CVBSin
STATUS_SC3
SNDR_SC3
SNDL_SC3
CVBS_AV3in
1402
PH-S
TO 1402 OF
B5
I/O EXPANDER
7501
PCF8574T
INTERRUPT LOGIC
LP FILTER
INPUT FILTER
I²C BUS CONTROL
SHIFT REGISTER
8 BIT
I/O PORTS
POWER-ON RESET
1680
FROM / TO 1680 OF
B6
+11V
+11V_IO
+5V
+5V_IO
H1
H2
H3
H4
H5
H6
1690
TO WIRELESS TRANSMITTER
SDA2_TM
SCL2_TM
AUDIO_SL_S_TM
I2C_MUTE
PILOT_MUTE
SURROUND JACK
YKB21-5157
1339
7515
74HC4053
1272
TO 0272
C3
PIP
1952
TO 1952
A8
1201
TO 0201
C3
PIP
1937
FROM 1937
A8
TUNER / SIM CONNECTOR
AUDIO_SL_TM
OISW
CVBS_AV3in
SCL2
SDA2
IO_3
IO_4
IO_6
8204_000_6582.3
CL 36532017_032.eps
140403

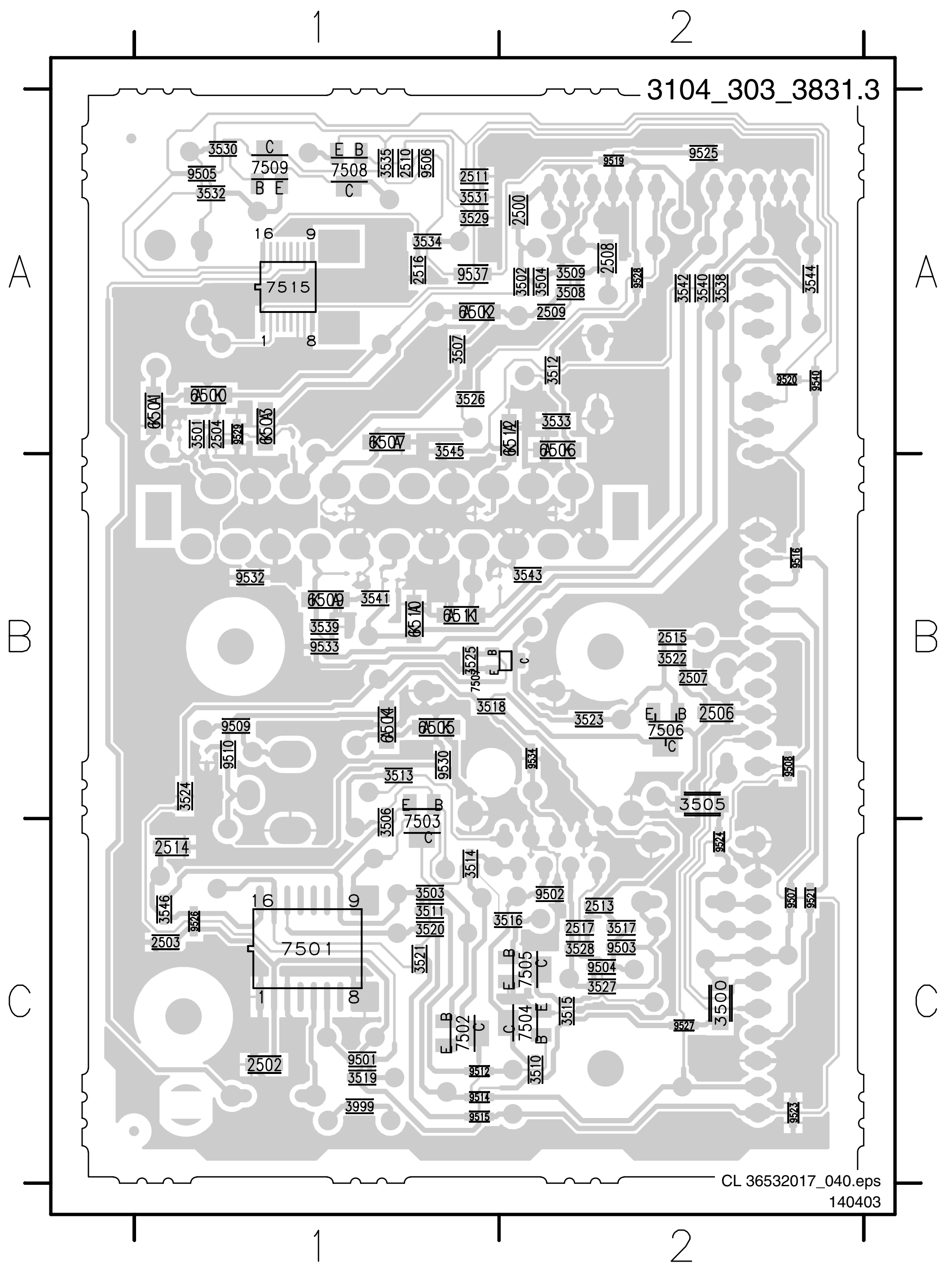
1201 F8		F511 D2	
1272 F12		F512 H1	
1339 E12		F514 H1	
1402 C6		F516 I1	
1500 A3		F518 I1	
1501 B2		F525 I8	
1502 B3		F531 C6	
1503 E11		F532 C3	
1504 G3		F533 C6	
1505 F3		F534 C6	
1506 E3		F535 C6	
1507 D3		F536 D3	
1508 C4		F537 D2	
1680 H1		F539 E5	
1690 A12		I500 G1	
1937 H8		I501 G1	
1952 F12		I502 H7	
1992 A1		I503 A4	
2500 A5		I504 B1	
2502 H1		I505 A4	
2503 H2		I506 G1	
2504 A3		I507 A8	
2506 G1		I508 A4	
2507 G2		I509 A11	
2508 B5		I510 G1	
2509 B3		I511 G1	
2510 H9		I512 G1	
2511 G11		I513 A11	
2513 E11		I514 A8	
2514 I3		I515 A11	
2515 C8		I516 B4	
2516 E10		I517 A11	
2517 B11		I518 B4	
3500 G1		I519 B4	
3501 A3		I520 A11	
3502 A4		I521 B7	
3503 A7		I522 A11	
3504 A4		I523 D11	
3505 G1		I524 I6	
3506 A8		I525 E7	
3507 B3		I526 I7	
3508 B4		I527 D11	
3509 B4		I528 E11	
3510 B7		I529 H3	
3511 B7		I530 H3	
3512 F5		I531 I6	
3513 A10		I532 C9	
3514 A10		I533 C9	
3515 D7		I534 H6	
3516 E7		I535 C9	
3517 D11		I536 H9	
3518 D11		I537 H1	
3519 C7		I538 H1	
3520 H3		I539 G10	
3521 I3		I540 H8	
3522 C9		I541 A7	
3523 C9		I542 D11	
3524 D8		I543 A8	
3525 D9		I544 C8	
3526 D2		I545 C2	
3527 A10		I546 H8	
3528 B10		I547 H12	
3529 H9		I548 H12	
3530 G9		I549 B3	
3531 H9		I552 D10	
3532 G10		I553 D12	
3533 G3		I554 E12	
3534 H9		I561 A9	
3535 H10		I562 A9	
3538 C5		I563 G10	
3539 C4		I564 H10	
3540 D4		I565 H10	
3541 D3		I566 G10	
3542 E4		I567 F10	
3543 E4		I568 F12	
3544 E3			
3545 F3			
3546 I6			
3999 H12			
6500 A4			
6501 A4			
6502 B4			
6503 C4			
6504 E11			
6505 E11			
6506 G3			
6507 C2			
6509 C4			
6510 D3			
6511 E4			
6512 F3			
7501 H3			
7502 A8			
7503 A9			
7504 B7			
7505 E8			
7506 B9			
7507 D9			
7508 H10			
7509 H10			
7515 E9			
9501 D7			
9502 B8			
9503 D10			
9504 D10			
9505 F10			
9506 I10			
9509 D12			
9510 E12			
9525 G12			
9530 H12			
9532 H12			
9533 I12			
F500 A2			
F501 B1			
F502 B2			
F504 A11			

Layout I/O 3rd Scart (Top Side)


1
2
A
B
C
3104_303_3831.3
1402
1680
1272
1952
1201
1937
1992
1339
1690
9511
9517
9518
9522
9531
9538
9539
PHILIPS
CL 36532017_039.eps
140403

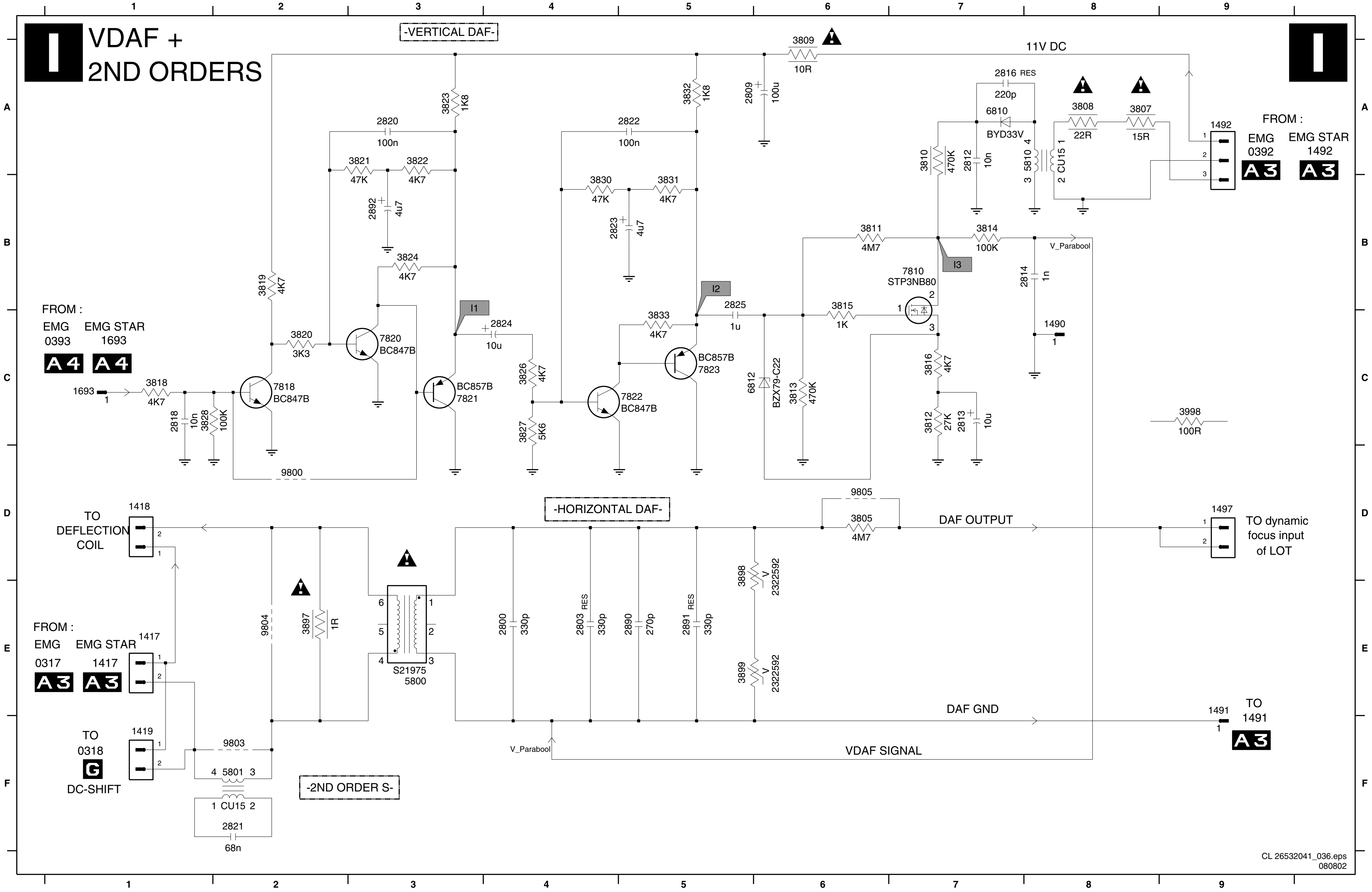
1201	B1
1272	A1
1339	B2
1402	A1
1680	A1
1690	B1
1937	C1
1952	A1
1992	A2
9511	A1
9517	C1
9518	C1
9522	B2
9531	B1
9538	A2
9539	C2

Layout I/O 3rd Scart (Bottom Side)


1
2
A
B
C
3104_303_3831.3
7515
7501
7509
7508
7503
7506
7502
7504
7505
3505
3500
CL 36532017_040.eps
140403

2500	A2
2502	C1
2503	C1
2504	A1
2506	B2
2507	B2
2508	A2
2509	A2
2510	A1
2511	A1
2513	C2
2514	C1
2515	B2
2516	A1
2517	C2
3500	C2
3501	A1
3502	A2
3503	C1
3504	A2
3505	B2
3506	C1
3507	A1
3508	A2
3509	A2
3510	C2
3511	C1
3512	A2
3513	B1
3514	C1
3515	C2
3516	C2
3517	C2
3518	B1
3519	C1
3520	C1
3521	C1
3522	B2
3523	B2
3524	B1
3525	B1
3526	A1
3527	C2
3528	C2
3529	A1
3530	A1
3531	A1
3532	A1
3533	A2
3534	A1
3535	A1
3538	A2
3539	B1
3540	A2
3541	B1
3542	A2
3543	B2
3544	A2
3545	A1
3546	C1
3999	C1
6500	A1
6501	A1
6502	A1
6503	A1
6504	B1
6505	B1
6506	A2
6507	B1
6509	B1
6510	B1
6511	B2
6512	A2
7501	C1
7502	C1
7503	C1
7504	C2
7505	C2
7506	B2
7507	B2
7508	A1
7509	A1
7515	A1
9501	C1
9502	C2
9503	C2
9504	C2
9505	A1
9506	A1
9507	C2
9508	B2
9509	B1
9510	B1
9512	C1
9514	C1
9515	C1
9516	B2
9519	A2
9520	A2
9521	C2
9523	C2
9524	C2
9525	A2
9526	C1
9527	C2
9528	A2
9529	A1
9530	B1
9532	B1
9533	B1
9534	B2
9537	A1
9540	A2

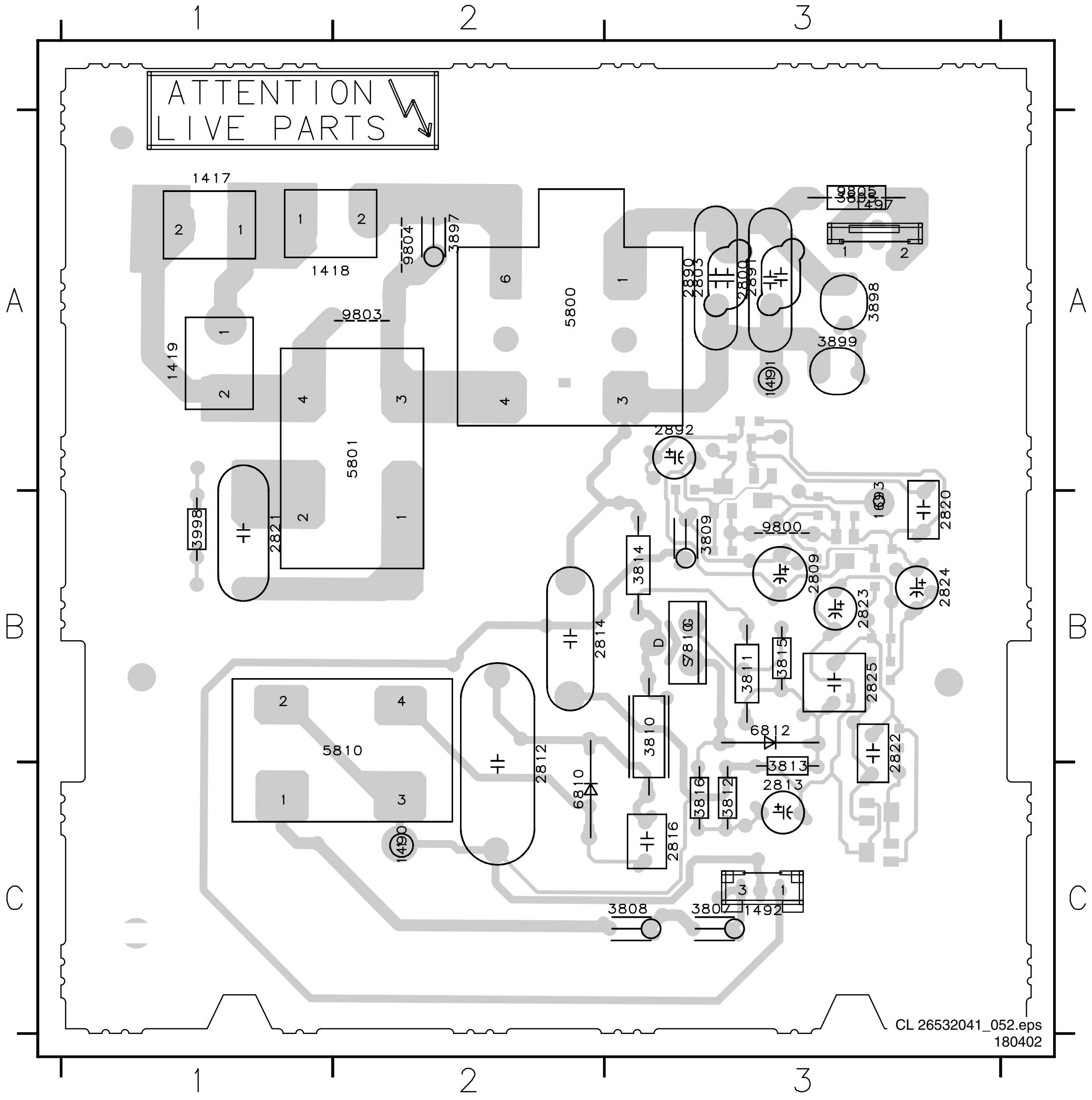
VDAF Panel + 2nd Orders


I
VDAF +
2ND ORDERS
-VERTICAL DAF-
-HORIZONTAL DAF-
-2ND ORDER S-
11V DC
3809 10R
2816 RES 220p
6810 BYD33V
3808 22R
3807 15R
FROM :
EMG 0392
EMG STAR 1492
A3
1492
3823 1K8
3832 1K8
2809 100u
2820 100n
2822 100n
3821 47K
3822 4K7
3830 47K
3831 4K7
2892 4u7
2823 4u7
3824 4K7
3810 470K
2812 10n
5810
CU15
3811 4M7
3814 100K
V_Parabool
I3
7810 STP3NB80
2814 1n
1490
3819 4K7
I1
I2
2824 10u
2825 1u
3833 4K7
3815 1K
FROM :
EMG 0393
EMG STAR 1693
A4
3820 3K3
7820 BC847B
BC857B 7821
BC857B 7823
3826 4K7
6812 BZX79-C22
3813 470K
3816 4K7
1693
3818 4K7
7818 BC847B
2818 10n
3828 100K
3827 5K6
7822 BC847B
3812 27K
2813 10u
3998 100R
9800
9805
3805 4M7
DAF OUTPUT
1497
TO dynamic focus input of LOT
1418
TO DEFLECTION COIL
9804
3897 1R
S21975 5800
2800 330p
2803 RES 330p
2890 270p
2891 RES 330p
3898 V 2322592
3899 V 2322592
FROM :
EMG 0317
EMG STAR 1417
A3
1417
DAF GND
1491
TO 1491
A3
V_Parabool
VDAF SIGNAL
TO 0318
1419
G
DC-SHIFT
9803
4 5801 3
1 CU15 2
2821 68n
CL 26532041_036.eps
080802

Item	Location
1417	E1
1418	D1
1419	F1
1490	C8
1491	E9
1492	A9
1497	D9
1693	C1
2800	E4
2803	E4
2809	A5
2812	A7
2813	C7
2814	B8
2816	A7
2818	C1
2820	A3
2821	F2
2822	A5
2823	B4
2824	C4
2825	B5
2890	E5
2891	E5
2892	B3
3805	D6
3807	A8
3808	A8
3809	A6
3810	A7
3811	B6
3812	C7
3813	C6
3814	B7
3815	B6
3816	C7
3818	C1
3819	B2
3820	C2
3821	A3
3822	A3
3823	A3
3824	B3
3826	C4
3827	C4
3828	C1
3830	B4
3831	B5
3832	A5
3833	C5
3897	E2
3898	D5
3899	E5
3998	C9
5800	E3
5801	F2
5810	A8
6810	A7
6812	C6
7810	B7
7818	C2
7820	C3
7821	C3
7822	C5
7823	C5
9800	D2
9803	F2
9804	E2
9805	D6

[I] VDAF+2ND ORDER S					
Item	29RF	28RF/32RF	34RF/38RF	36RF	Description
1492	X		X	X	3p
1693	X		X	X	1p
2800	X				330pF
2800		X	X		470pF
2800				X	390pF
2809	X		X	X	100uF
2812	X		X	X	10nF
2813	X		X	X	10uF
2814	X		X	X	1nF
2821	X	X			68nF
2822	X		X	X	4nF
2824	X		X	X	10uF
2825	X		X	X	1uF
2890	X				270pF
2890		X			220pF
2890			X		470pF
2890				X	390pF
3807	X		X	X	15R
3808	X		X	X	15R
3809	X		X	X	10R
3810	X		X	X	470kR
3811	X		X	X	4.7MR
3812	X		X	X	27kR
3813	X		X	X	470kR
3814	X		X	X	100kR
3815	X		X	X	1kR
3816	X		X		4.7kR
3816				X	2.2kR
3818	X		X	X	33kR
3820	X		X	X	Jumper
3821	X		X	X	Jumper
3822	X		X	X	Jumper
3823	X		X	X	1.5kR
3824	X		X	X	33kR
3826	X		X	X	3.3kR
3827	X		X	X	5.6kR
3828	X		X	X	100kR
3830	X		X	X	47kR
3831	X		X	X	4.7kR
3832	X		X	X	1.8kR
3833	X		X	X	4.7kR
5801	X	X			Transformer
5810	X		X	X	Bridge coil
6810	X		X	X	BYD33V
6812	X		X	X	BZX79-C22
7810	X		X	X	STP3NB80FP
7818	X		X	X	BC847B
7822	X		X	X	BC847B
7823	X		X	X	BC857B
9800	X		X	X	Wire
9803			X	X	Wire

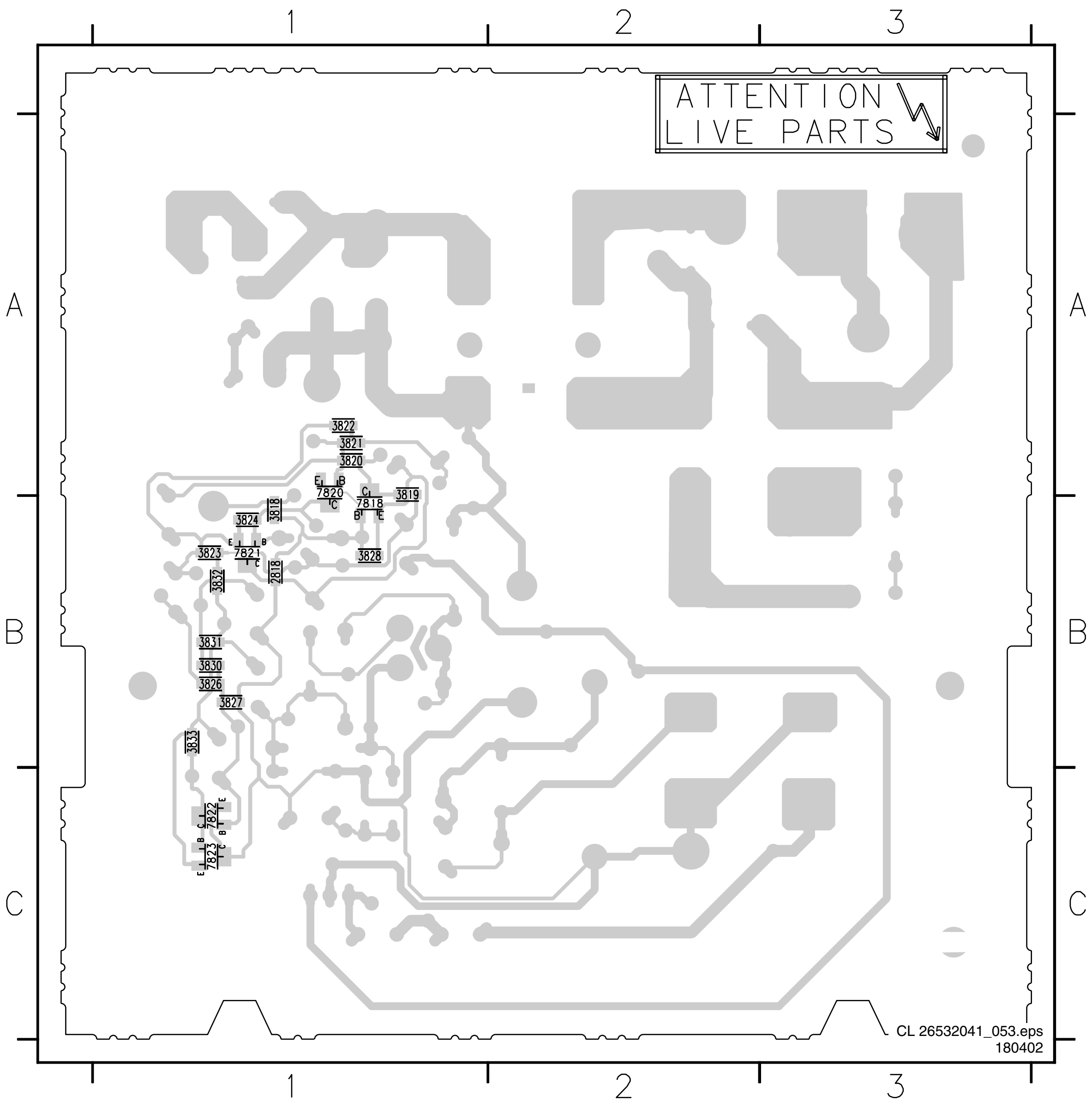
Layout VDAF Panel (Top Side)


1
2
3
A
B
C
ATTENTION
LIVE PARTS
1417
1418
1419
9803
9804
3897
5800
5801
2890
2803
2891
3898
3899
1491
9805
3896
1497
2892
1693
2820
3998
2821
3809
9800
2809
2824
3814
2823
2814
7810
3811
3815
2825
5810
2812
3810
6812
3813
2822
6810
2813
3816
3812
2816
1490
3808
3807
1492

CL 26532041_052.eps
180402

1417	A1
1418	A1
1419	A1
1490	C2
1491	A3
1492	C3
1497	A3
1693	B3
2800	A3
2803	A3
2809	B3
2812	C2
2813	C3
2814	B2
2816	C3
2820	B3
2821	B1
2822	B3
2823	B3
2824	B3
2825	B3
2890	A3
2891	A3
2892	A3
3805	A3
3807	C3
3808	C3
3809	B3
3810	B3
3811	B3
3812	C3
3813	C3
3814	B3
3815	B3
3816	C3
3897	A2
3898	A3
3899	A3
3998	B1
5800	A2
5801	A1
5810	B2
6810	C2
6812	B3
7810	B3
9800	B3
9803	A2
9804	A2
9805	A3

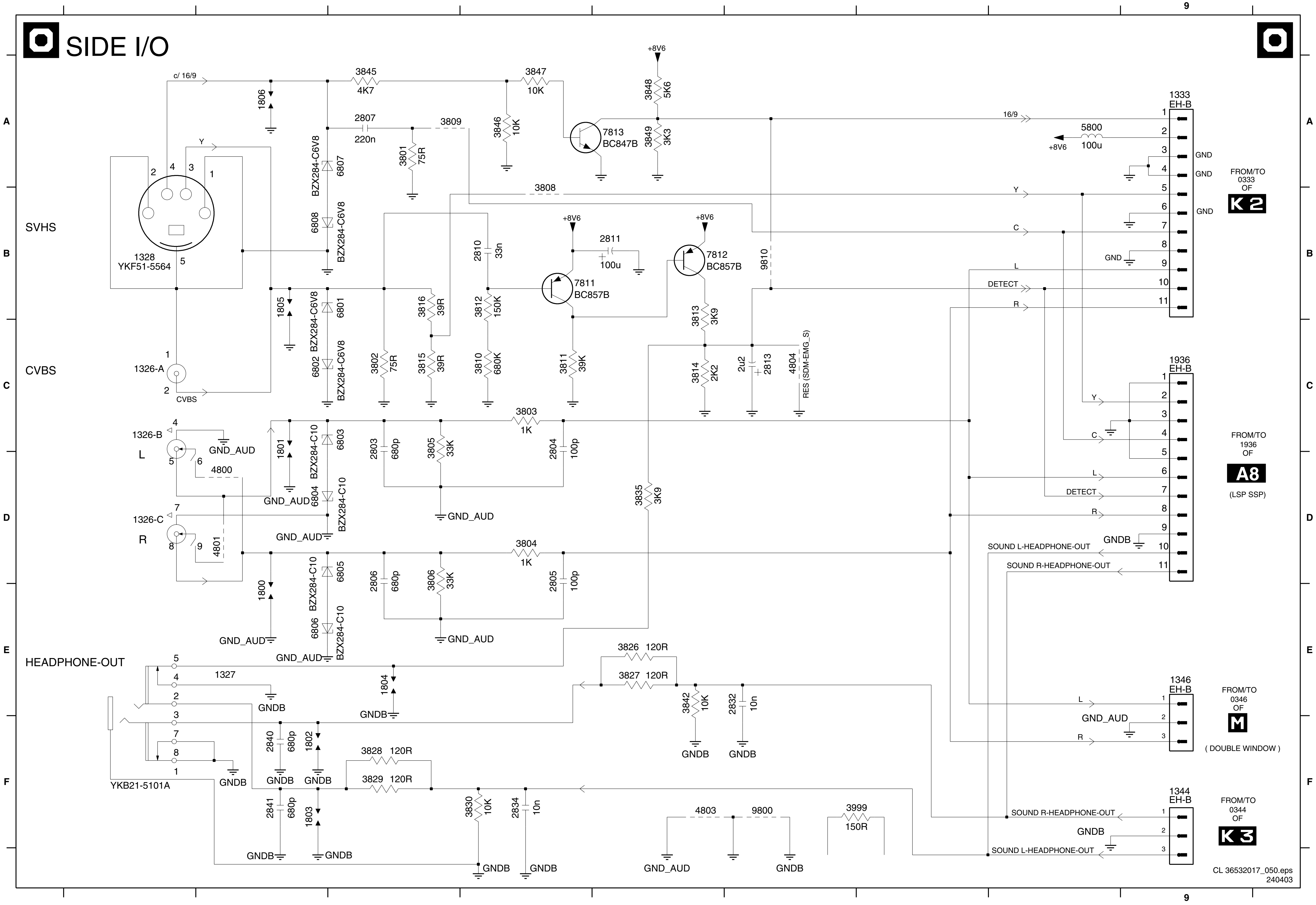
Layout VDAF Panel (Bottom Side)


1
2
3
A
B
C
ATTENTION
LIVE PARTS
3822
3821
3820
7820
7818
3819
3824
3818
3823
7821
3832
2818
3828
3831
3830
3826
3827
3833
7822
7823

CL 26532041_053.eps
180402

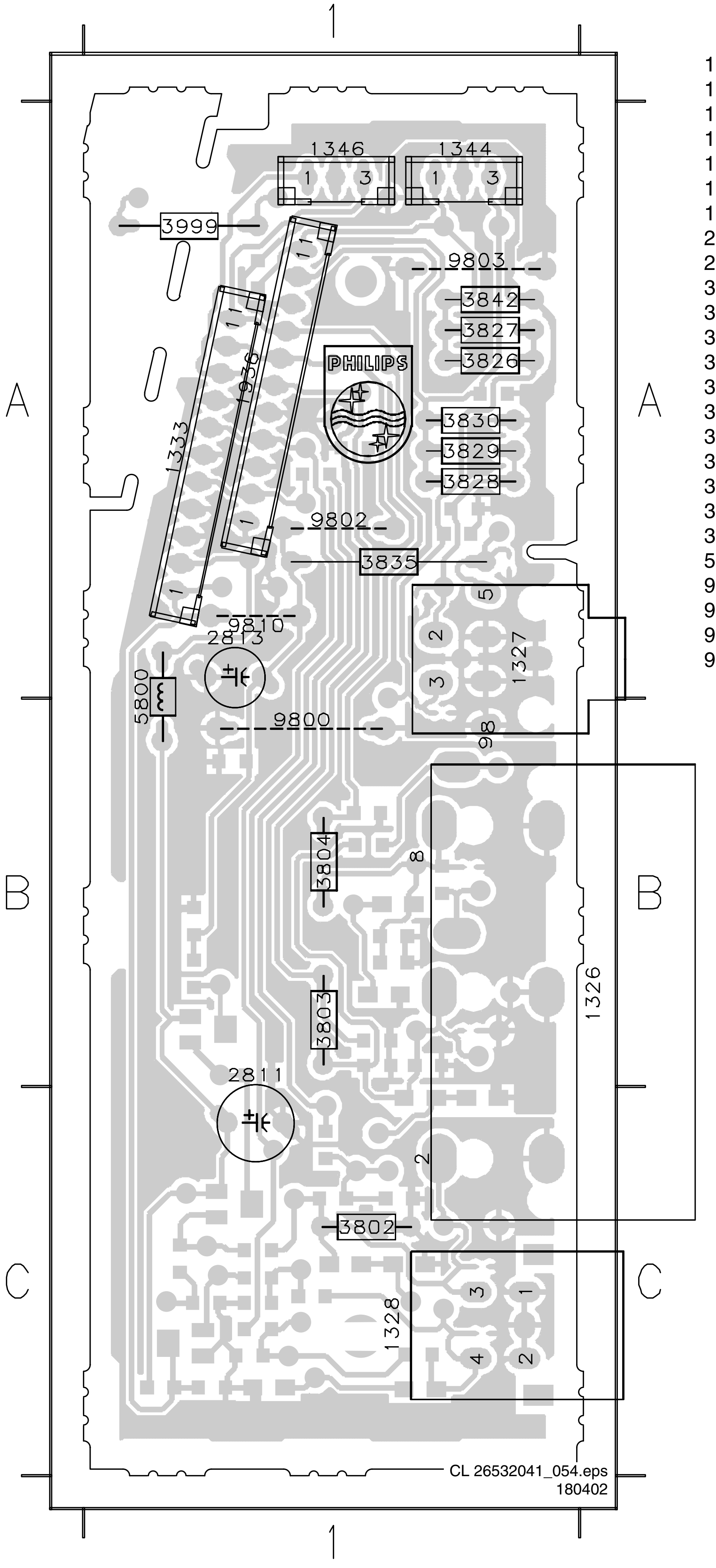
2818	B1
3818	B1
3819	A1
3820	A1
3821	A1
3822	A1
3823	B1
3824	B1
3826	B1
3827	B1
3828	B1
3830	B1
3831	B1
3832	B1
3833	B1
7818	B1
7820	A1
7821	B1
7822	C1
7823	C1

Side I/O Panel (FL11 Styling)


SIDE I/O
SVHS
CVBS
HEADPHONE-OUT
1328
YKF51-5564
1326-A
1326-B
1326-C
L
R
GND_AUD
1327
YKB21-5101A
GNDB
c/ 16/9
Y
CVBS
3845 4K7
3847 10K
+8V6
3848 5K6
3849 3K3
3846 10K
7813 BC847B
2807 220n
3809
3801 75R
1806
BZX284-C6V8
6807
6808
3808
2810 33n
2811 100u
7811 BC857B
7812 BC857B
9810
1805
6801
6802
3816 39R
3815 39R
3812 150K
3810 680K
3802 75R
3811 39K
3813 3K9
3814 2K2
2813 2u2
4804 RES (SDM-EMG_S)
3803 1K
3804 1K
1801
1800
BZX284-C10
6803
6804
6805
6806
2803 680p
2804 100p
2805 100p
2806 680p
3805 33K
3806 33K
4800
4801
3835 3K9
1804
3826 120R
3827 120R
3842 10K
2832 10n
2840 680p
2841 680p
1802
1803
3828 120R
3829 120R
3830 10K
2834 10n
4803
9800
3999 150R
1333 EH-B
16/9
5800 100u
GND
DETECT
FROM/TO 0333 OF K2
1936 EH-B
FROM/TO 1936 OF A8 (LSP SSP)
SOUND L-HEADPHONE-OUT
SOUND R-HEADPHONE-OUT
GNDB
1346 EH-B
FROM/TO 0346 OF M (DOUBLE WINDOW)
1344 EH-B
FROM/TO 0344 OF K3
CL 36532017_050.eps 240403
A B C D E F
9

1326-A	C1
1326-B	C1
1326-C	D1
1327	E2
1328	B1
1333	A9
1344	F9
1346	E9
1800	E2
1801	C2
1802	F2
1803	F2
1804	E3
1805	B2
1806	A2
1936	C9
2803	C3
2804	C4
2805	D4
2806	D3
2807	A3
2810	B4
2811	B5
2813	C6
2832	E6
2834	F4
2840	F2
2841	F2
3801	A3
3802	C3
3803	C4
3804	D4
3805	C3
3806	D3
3808	B4
3809	A3
3810	C4
3811	C4
3812	B4
3813	B5
3814	C5
3815	C3
3816	B3
3826	E5
3827	E5
3828	F3
3829	F3
3830	F4
3835	D5
3842	E5
3845	A3
3846	A4
3847	A4
3848	A5
3849	A5
3999	F7
4800	D2
4801	D2
4803	F5
4804	C6
5800	A8
6801	B3
6802	C2
6803	C3
6804	D2
6805	D3
6806	E2
6807	A3
6808	B2
7811	B4
7812	B5
7813	A5
9800	F6
9810	B6

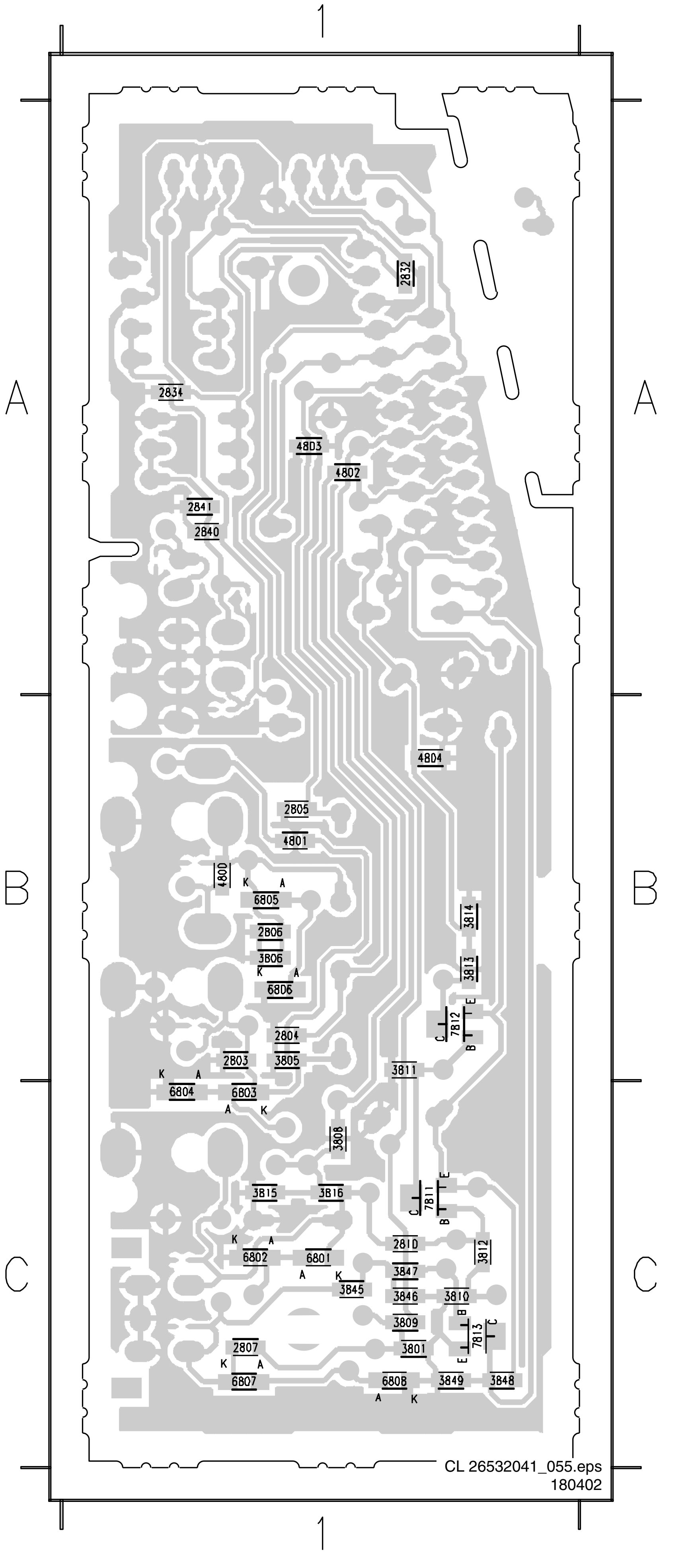
Layout Side I/O Panel (FL11 Styling) (Top Side)


1
A
B
C
1346
1344
3999
9803
3842
3827
3826
PHILIPS
1936
1333
3830
3829
3828
9802
3835
1327
9810
2813
5800
9800
3804
1326
3803
2811
3802
1328
1

CL 26532041_054.eps
180402

1326	B1
1327	A1
1328	C1
1333	A1
1344	A1
1346	A1
1936	A1
2811	B1
2813	A1
3802	C1
3803	B1
3804	B1
3826	A1
3827	A1
3828	A1
3829	A1
3830	A1
3835	A1
3842	A1
3999	A1
5800	A1
9800	B1
9802	A1
9803	A1
9810	A1

Layout Side I/O Panel (FL11 Styling) (Bottom Side)


1
A
B
C
2832
2834
4803
4802
2841
2840
4804
2805
4801
4800
6805
2806
3806
6806
3814
3813
7812
2804
2803
3805
6804
6803
3811
3808
3815
3816
7811
6802
6801
2810
3812
3845
3847
3846
3810
3809
7813
2807
3801
6807
6808
3849
3848
1

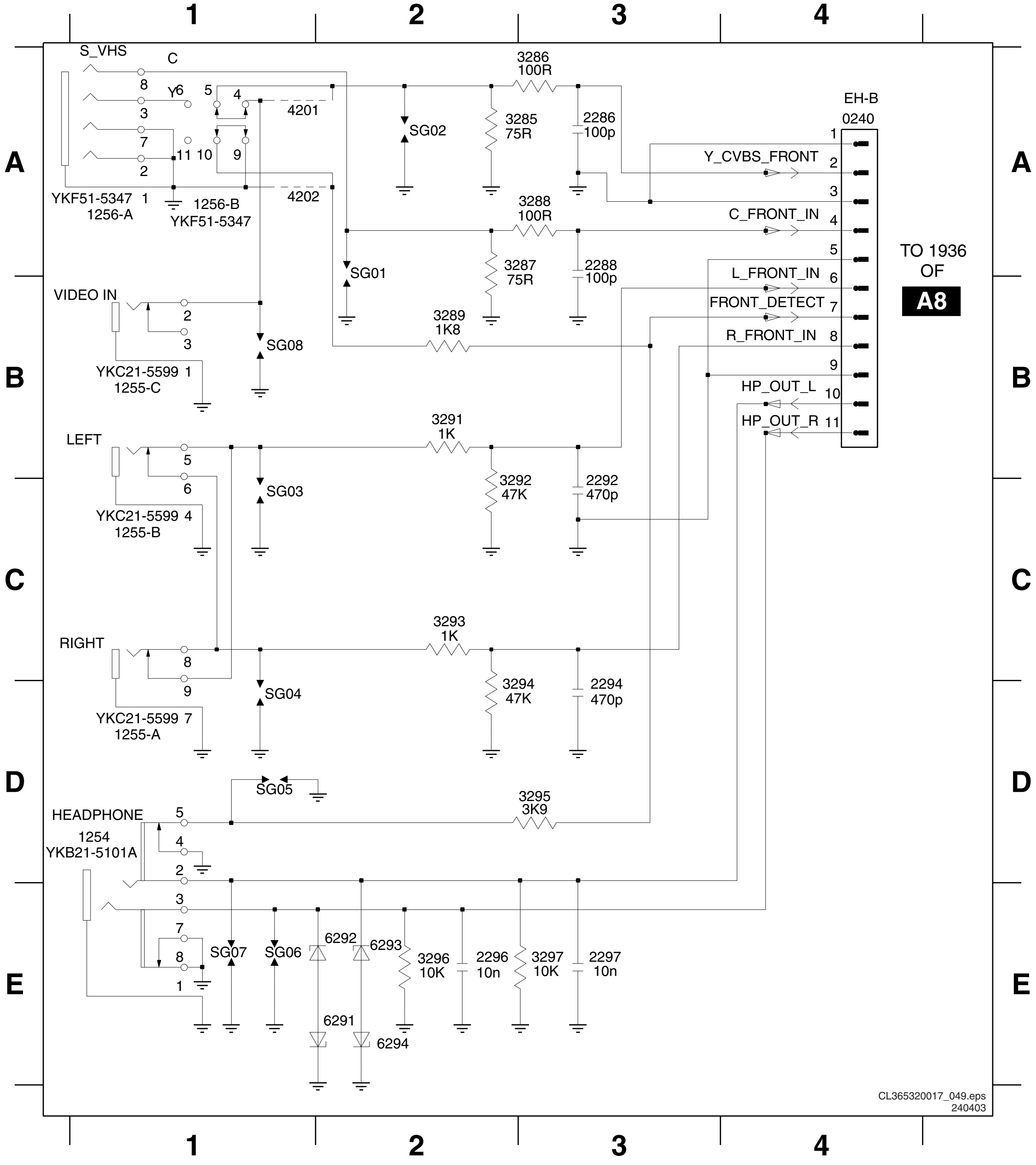
CL 26532041_055.eps
180402

2803	B1
2804	B1
2805	B1
2806	B1
2807	C1
2810	C1
2832	A1
2834	A1
2840	A1
2841	A1
3801	C1
3805	B1
3806	B1
3808	C1
3809	C1
3810	C1
3811	B1
3812	C1
3813	B1
3814	B1
3815	C1
3816	C1
3845	C1
3846	C1
3847	C1
3848	C1
3849	C1
4800	B1
4801	B1
4802	A1
4803	A1
4804	B1
6801	C1
6802	C1
6803	B1
6804	C1
6805	B1
6806	B1
6807	C1
6808	C1
7811	C1
7812	B1
7813	C1

Side I/O Panel (PV2 Styling)

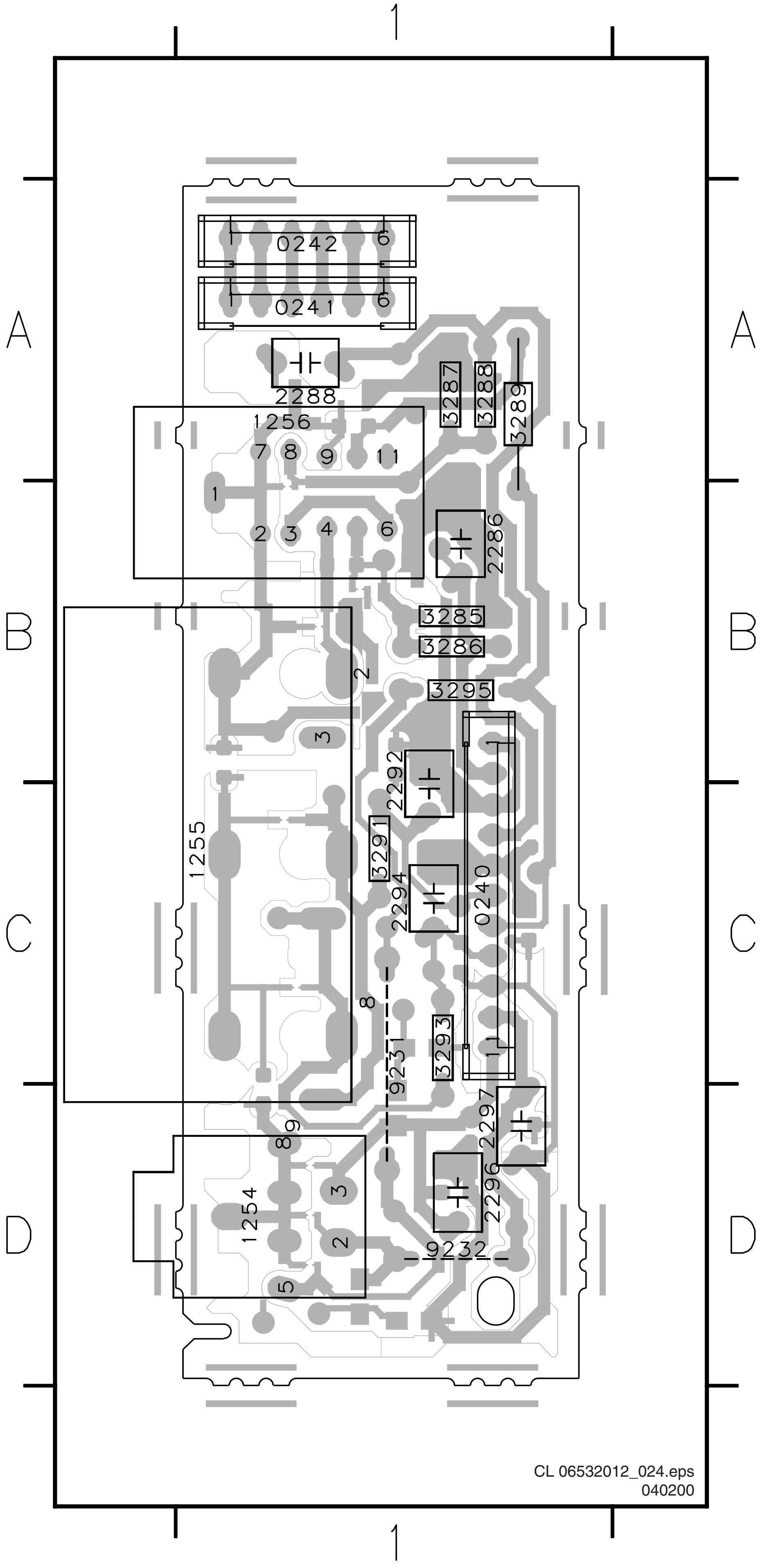
O SIDE IO PANEL

0240	A4
1254	D1
1255-A	D1
1255-B	C1
1255-C	B1
1256-A	A1
1256-B	A1
2286	A3
2288	A3
2292	B3
2294	C3
2296	E2
2297	E3
3285	A3
3286	A3
3287	A3
3288	A3
3289	B2
3291	B2
3292	B2
3293	C2
3294	C3
3295	D3
3296	E2
3297	E3
4201	A1
4202	A1
6291	E2
6292	E2
6293	E2
6294	E2
SG01	B2
SG02	A2
SG03	C1
SG04	D1
SG05	D1
SG06	E1
SG07	E1
SG08	B1


1
2
3
4
A
B
C
D
E
S_VHS
C
Y
YKF51-5347
1256-A
1256-B
YKF51-5347
4201
4202
3286
100R
3285
75R
2286
100p
SG02
3288
100R
3287
75R
2288
100p
SG01
3289
1K8
EH-B
0240
Y_CVBS_FRONT
C_FRONT_IN
L_FRONT_IN
FRONT_DETECT
R_FRONT_IN
HP_OUT_L
HP_OUT_R
TO 1936
OF
A8
VIDEO IN
YKC21-5599
1255-C
SG08
LEFT
YKC21-5599
1255-B
SG03
3291
1K
3292
47K
2292
470p
RIGHT
YKC21-5599
1255-A
SG04
3293
1K
3294
47K
2294
470p
HEADPHONE
1254
YKB21-5101A
SG05
3295
3K9
SG07
SG06
6291
6292
6293
6294
3296
10K
2296
10n
3297
10K
2297
10n
CL365320017_049.eps
240403

Personal Notes:

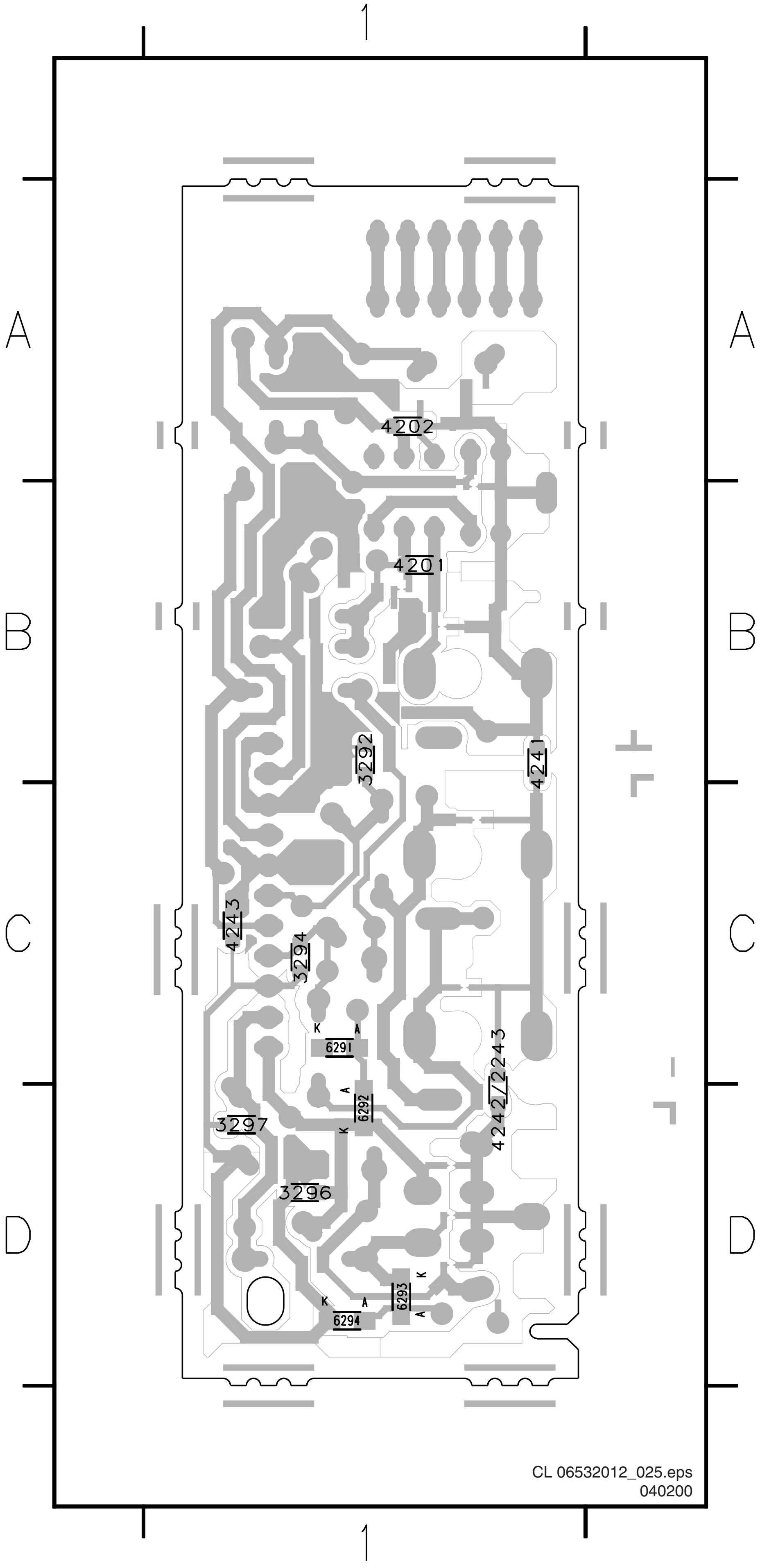
Layout Side I/O Panel (PV2 Styling) (Top Side)


1
A
B
C
D
0242
0241
2288
1256
3287
3288
3289
2286
3285
3286
3295
2292
3291
2294
0240
1255
3293
9231
2297
2296
1254
9232

CL 06532012_024.eps
040200

0240	C1
0241	A1
0242	A1
1254	D1
1255	C1
1256	A1
2286	B1
2288	A1
2292	B1
2294	C1
2296	D1
2297	D1
3285	B1
3286	B1
3287	A1
3288	A1
3289	A1
3291	C1
3293	C1
3295	B1
9231	C1
9232	D1

Layout Side I/O Panel (PV2 Styling) (Bottom Side)

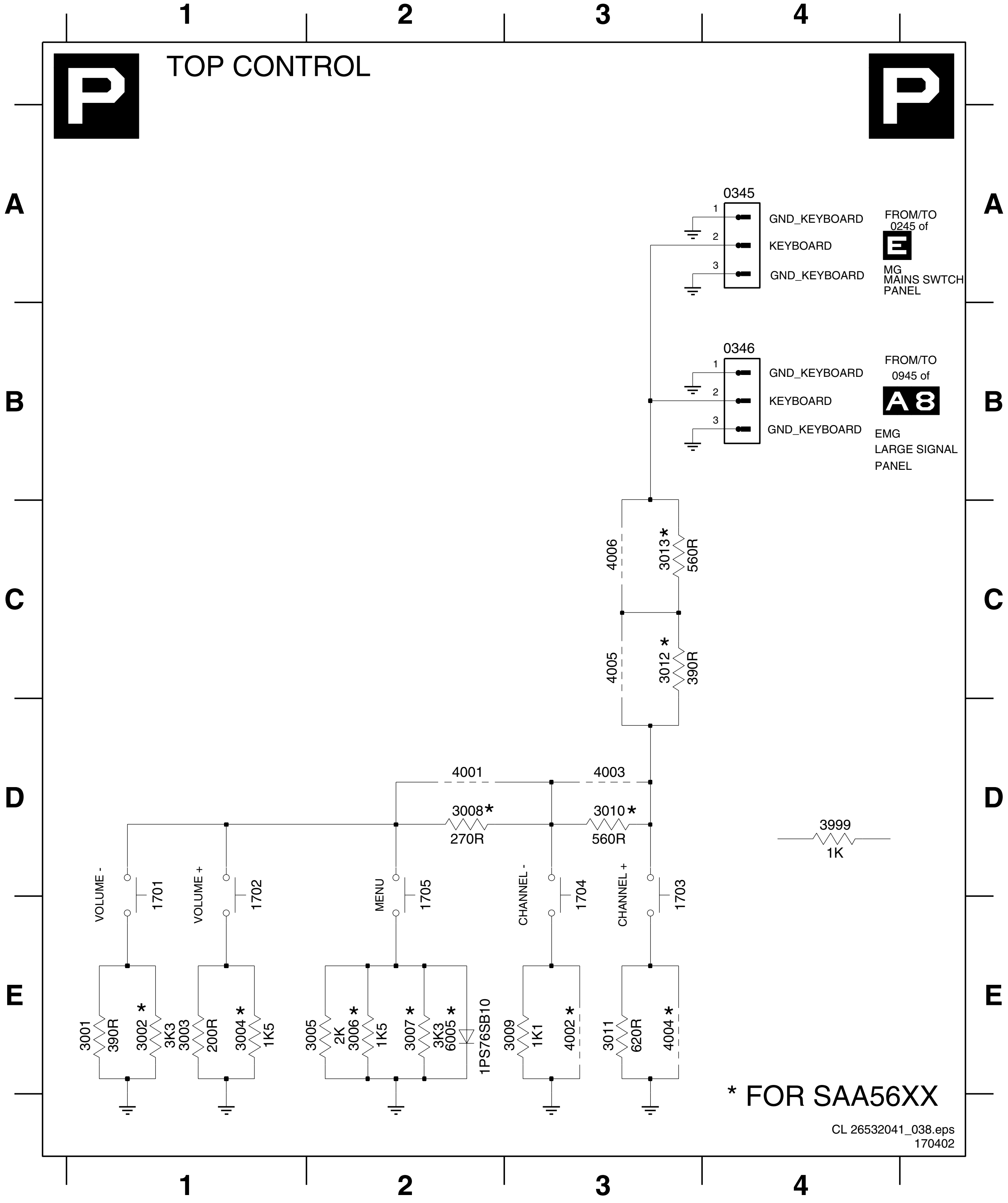

1
A
B
C
D
4202
4201
3292
4241
4243
3294
6291
6292
4242/2243
3297
3296
6293
6294
K
A

CL 06532012_025.eps
040200

3292	B1
3294	C1
3296	D1
3297	D1
4201	B1
4202	A1
4241	B1
4242/2243	D1
4243	C1
6291	C1
6292	D1
6293	D1
6294	D1

Top Control Panel (FL11 Styling)

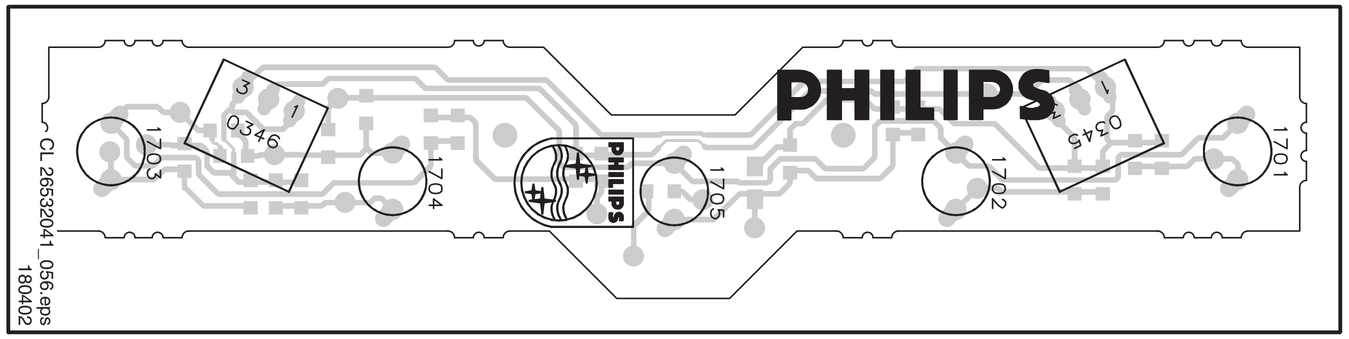
0345 A4	1703 D3	3002 E1	3006 E2	3010 D3	3999 D4	4004 E3
0346 B4	1704 D3	3003 E1	3007 E2	3011 E3	4001 D2	4005 C3
1701 D1	1705 D2	3004 E1	3008 D2	3012 C3	4002 E3	4006 C3
1702 D1	3001 E1	3005 E2	3009 E3	3013 C3	4003 D3	6005 E2


1
2
3
4
A
B
C
D
E
P
TOP CONTROL
0345
GND_KEYBOARD
KEYBOARD
GND_KEYBOARD
FROM/TO
0245 of
E
MG
MAINS SWTCH
PANEL
0346
GND_KEYBOARD
KEYBOARD
GND_KEYBOARD
FROM/TO
0945 of
A8
EMG
LARGE SIGNAL
PANEL
4006
3013*
560R
4005
3012*
390R
4001
4003
3008*
270R
3010*
560R
3999
1K
VOLUME -
1701
VOLUME +
1702
MENU
1705
CHANNEL -
1704
CHANNEL +
1703
3001
390R
3002*
3K3
3003
200R
3004*
1K5
3005
2K
3006*
1K5
3007*
3K3
6005*
1PS76SB10
3009
1K1
4002*
3011
620R
4004*

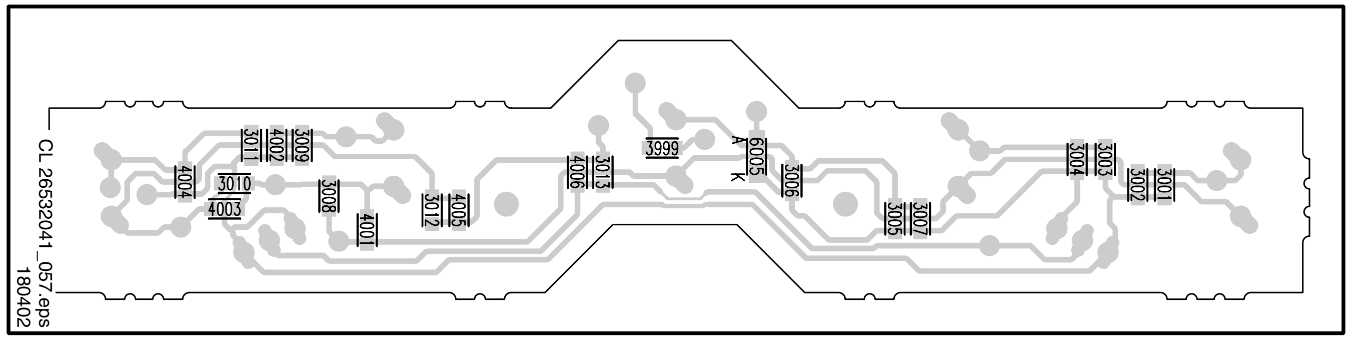
* FOR SAA56XX

CL 26532041_038.eps
170402

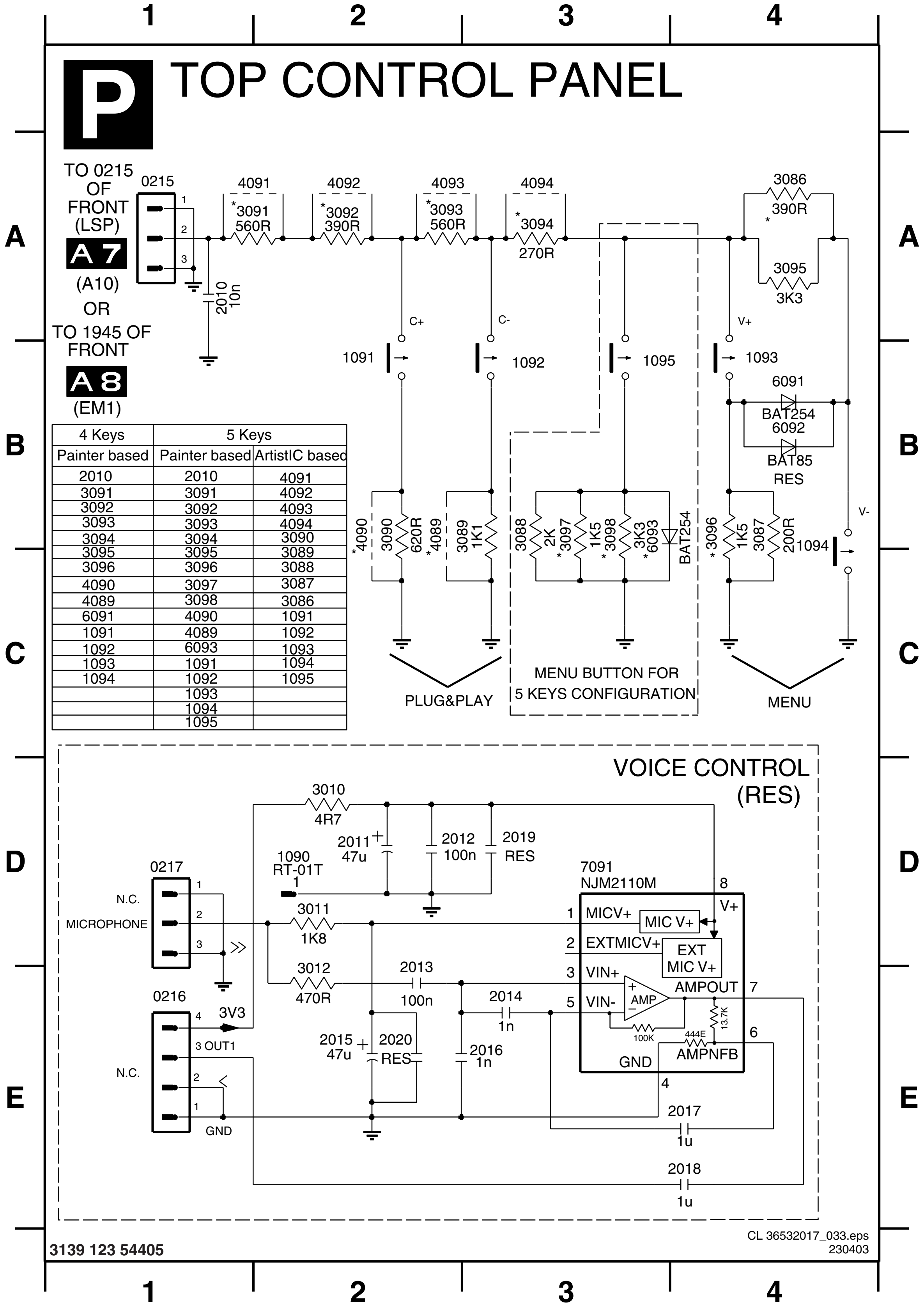
Top Control Panel (FL11 Styling) (Top Side)


PHILIPS
1703
0346
1704
1705
1702
0345
1701
CL 26532041_056.eps
180402

Top Control Panel (FL11 Styling) (Bottom Side)


4004
3011
4002
3009
3010
4003
3008
4001
3012
4005
4006
3013
3999
6005
3006
3005
3007
3004
3003
3002
3001
CL 26532041_057.eps
180402

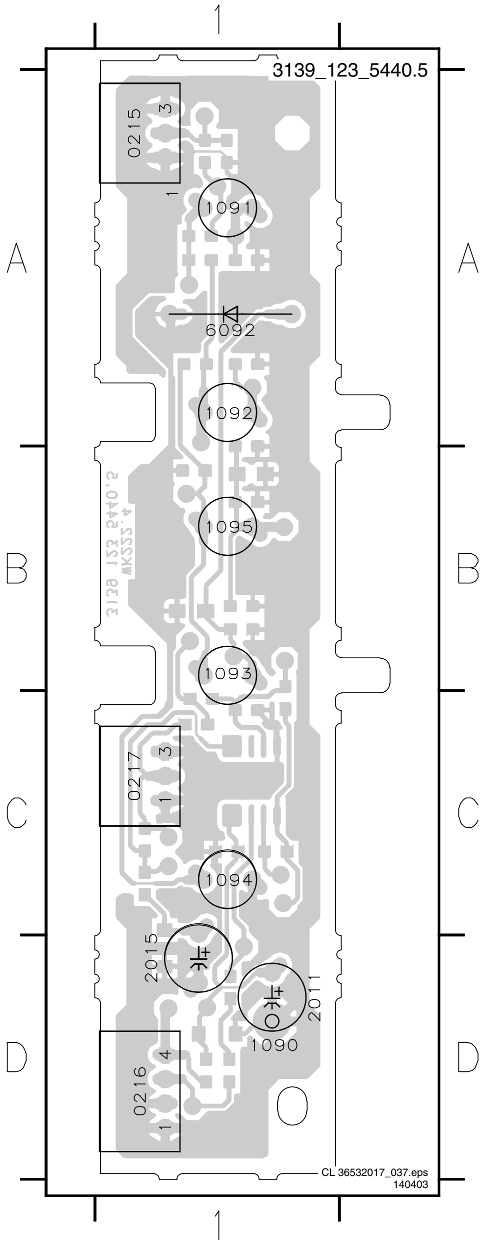
Top Control Panel (PV2 Styling)


P
TOP CONTROL PANEL
TO 0215 OF FRONT (LSP)
A7
(A10)
OR
TO 1945 OF FRONT
A8
(EM1)
0215
4091
4092
4093
4094
3091 560R
3092 390R
3093 560R
3094 270R
3086 390R
3095 3K3
2010 10n
C+
C-
V+
V-
1091
1092
1095
1093
1094
6091 BAT254
6092 BAT85 RES
4090
3090 620R
4089
3089 1K1
3088 2K
3097 1K5
3098
3K3 6093
BAT254
3096 1K5
3087 200R
PLUG&PLAY
MENU BUTTON FOR 5 KEYS CONFIGURATION
MENU
VOICE CONTROL (RES)
3010 4R7
2011 47u
2012 100n
2019 RES
0217
N.C.
MICROPHONE
1090 RT-01T
3011 1K8
3012 470R
2013 100n
2014 1n
7091 NJM2110M
MICV+
EXTMICV+
VIN+
VIN-
MIC V+
EXT MIC V+
AMP
AMPOUT
AMPNFB
GND
V+
100K
444E
13.7K
0216
3V3
OUT1
GND
N.C.
2015 47u
2020 RES
2016 1n
2017 1u
2018 1u
A
B
C
D
E
1
2
3
4
3139 123 54405
CL 36532017_033.eps
230403

4 Keys	5 Keys	
Painter based	Painter based	ArtistIC based
2010	2010	4091
3091	3091	4092
3092	3092	4093
3093	3093	4094
3094	3094	3090
3095	3095	3089
3096	3096	3088
4090	3097	3087
4089	3098	3086
6091	4090	1091
1091	4089	1092
1092	6093	1093
1093	1091	1094
1094	1092	1095
	1093	
	1094	
	1095	

0215	**A1**
0216	**E1**
0217	**D1**
1090	**D2**
1091	**B2**
1092	**B3**
1093	**B4**
1094	**B4**
1095	**B3**
2010	**A1**
2011	**D2**
2012	**D2**
2013	**E2**
2014	**E3**
2015	**E2**
2016	**E3**
2017	**E4**
2018	**E4**
2019	**D3**
2020	**E2**
3010	**D2**
3011	**D2**
3012	**E2**
3086	**A4**
3087	**B4**
3088	**B3**
3089	**B3**
3090	**B2**
3091	**A1**
3092	**A2**
3093	**A2**
3094	**A3**
3095	**A4**
3096	**B4**
3097	**B3**
3098	**B3**
4089	**B2**
4090	**B2**
4091	**A2**
4092	**A2**
4093	**A2**
4094	**A3**
6091	**B4**
6092	**B4**
6093	**B3**
7091	**D3**

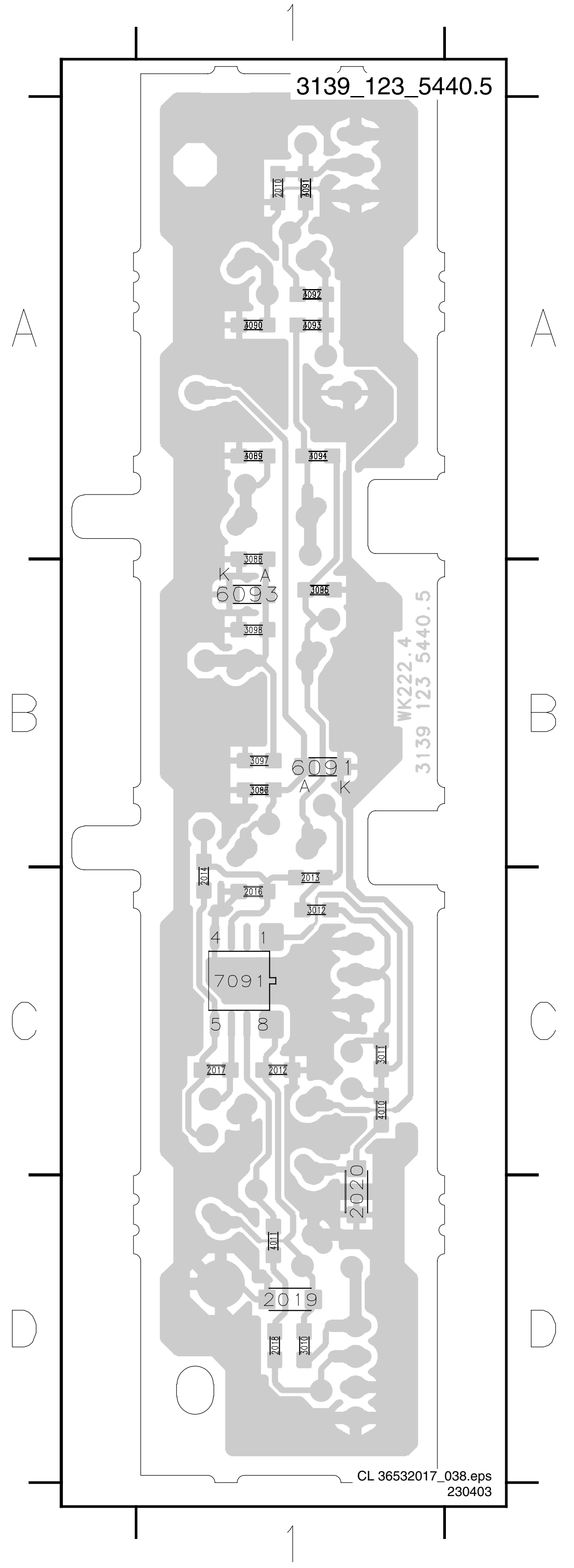
Layout Top Control Panel (PV2 Styling) (Top Side)


1
A
B
C
D
3139_123_5440.5
0215
1091
6092
1092
1095
1093
0217
1094
2015
2011
1090
0216
CL 36532017_037.eps
140403

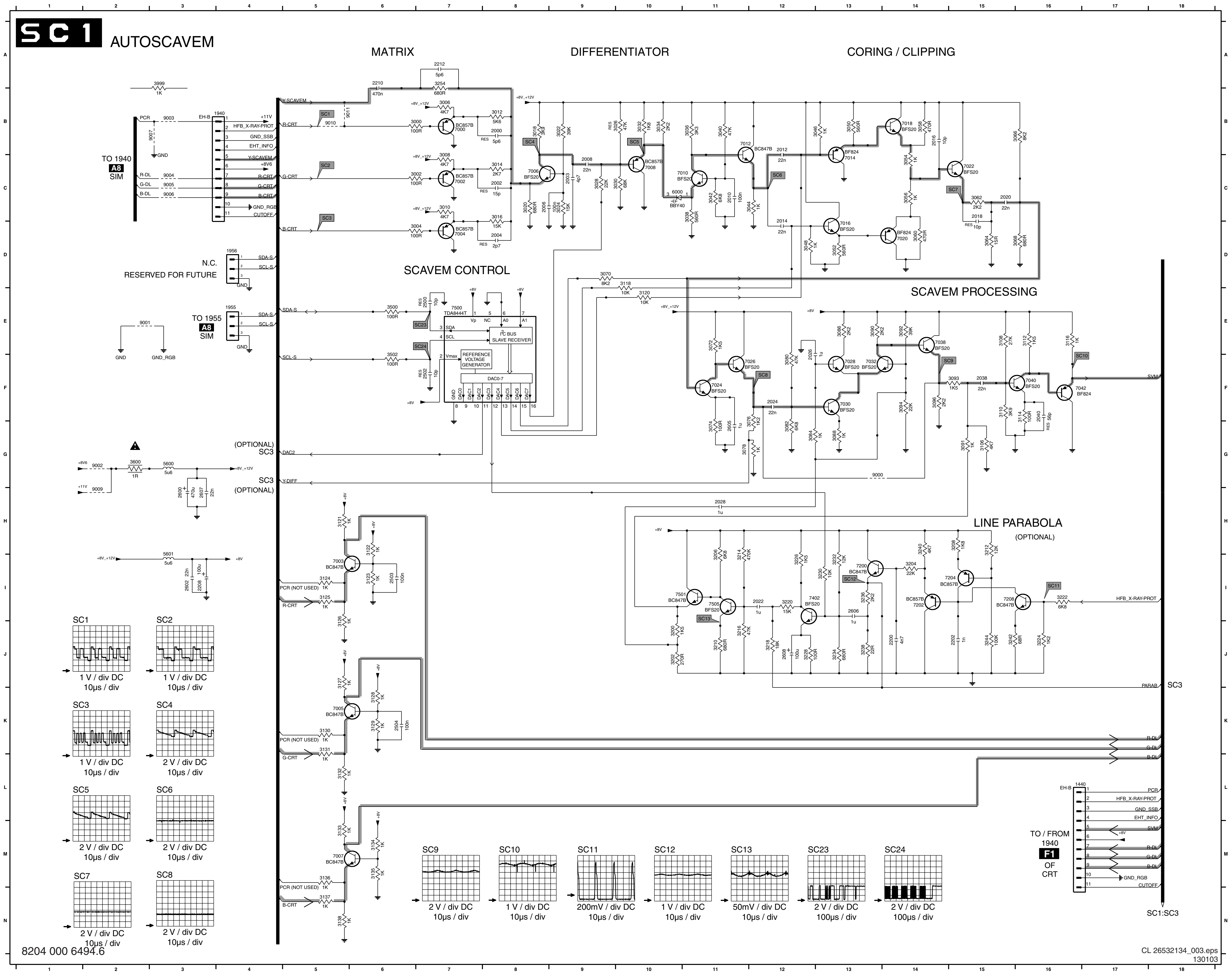
0215	A1
0216	D1
0217	C1
1090	D1
1091	A1
1092	A1
1093	B1
1094	C1
1095	B1
2011	D1
2015	D1
6092	A1

Layout Top Control Panel (PV2 Styling) (Bottom Side)

2010	A1
2012	C1
2013	C1
2014	C1
2016	C1
2017	C1
2018	D1
2019	D1
2020	D1
3010	D1
3011	C1
3012	C1
3086	B1
3087	B1
3088	A1
3089	A1
3090	A1
3091	A1
3092	A1
3093	A1
3094	A1
3095	B1
3096	B1
3097	B1
3098	B1
4010	C1
4011	D1
4089	A1
4090	A1
4091	A1
4092	A1
4093	A1
4094	A1
6091	B1
6093	B1
7091	C1

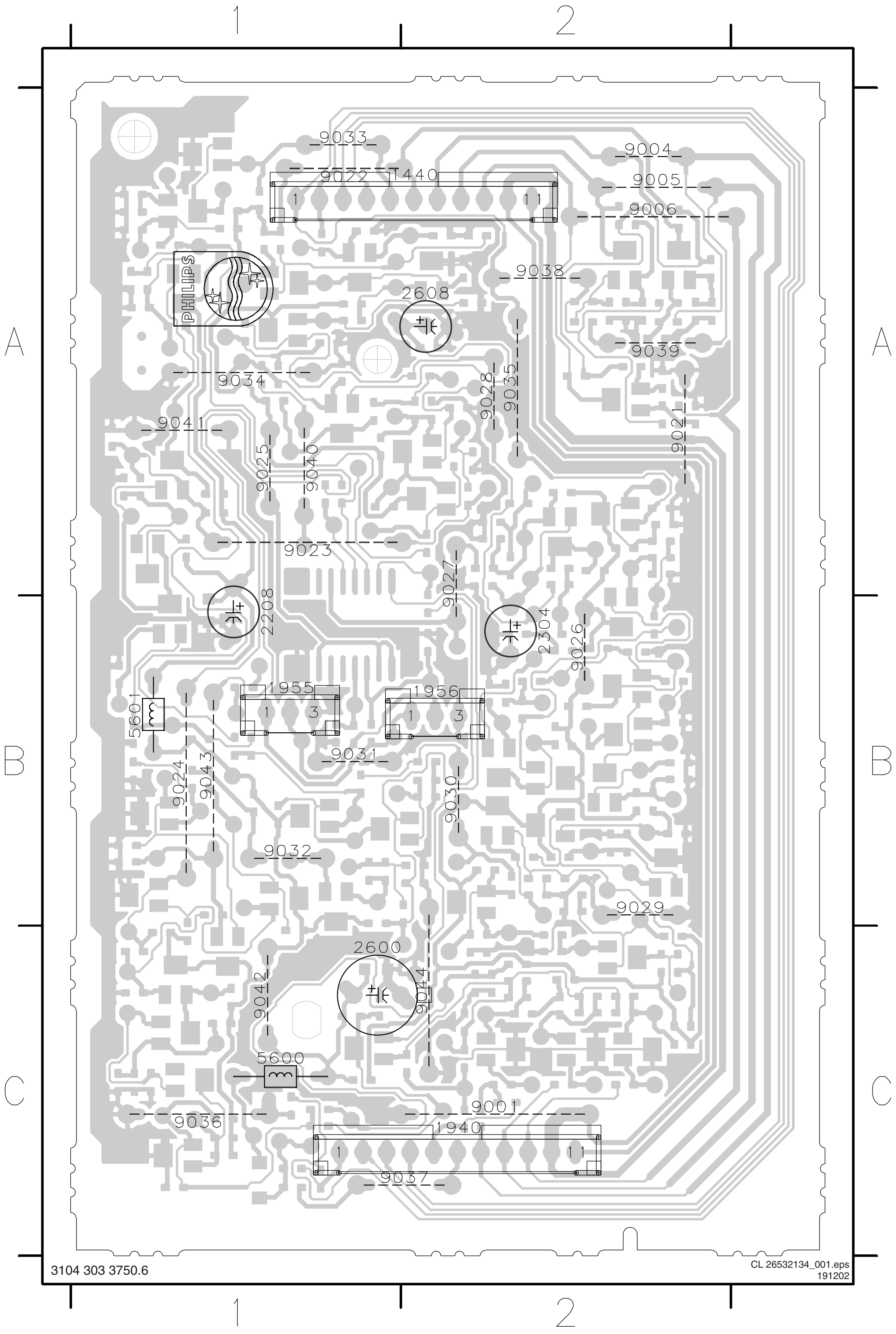

1
A
B
C
D
3139_123_5440.5
6093
K
A
6091
A
K
WK222.4
3139 123 5440.5
7091
4
1
5
8
2020
2019
CL 36532017_038.eps
230403

Auto SCAVEM Panel


SC1
AUTOSCAVEM
MATRIX
DIFFERENTIATOR
CORING / CLIPPING
SCAVEM CONTROL
SCAVEM PROCESSING
LINE PARABOLA
(OPTIONAL)
TO 1940
A8
SIM
N.C.
RESERVED FOR FUTURE
TO 1955
A8
SIM
TDA8444T
I²C BUS SLAVE RECEIVER
REFERENCE VOLTAGE GENERATOR
DAC0-7
(OPTIONAL)
SC3
DAC2
Y-DIFF
PARAB
SVM
HFB_X-RAY-PROT
R-DL
G-DL
B-DL
TO / FROM
1940
F1
OF
CRT
SC1:SC3
SC1
1 V / div DC
10µs / div
SC2
1 V / div DC
10µs / div
SC3
1 V / div DC
10µs / div
SC4
2 V / div DC
10µs / div
SC5
2 V / div DC
10µs / div
SC6
2 V / div DC
10µs / div
SC7
2 V / div DC
10µs / div
SC8
2 V / div DC
10µs / div
SC9
2 V / div DC
10µs / div
SC10
1 V / div DC
10µs / div
SC11
200mV / div DC
10µs / div
SC12
1 V / div DC
10µs / div
SC13
50mV / div DC
10µs / div
SC23
2 V / div DC
100µs / div
SC24
2 V / div DC
100µs / div
8204 000 6494.6
CL 26532134_003.eps
130103

1440	L17
1940	B4
1955	E4
1956	D4
2000	B8
2002	C8
2003	C9
2004	D8
2006	C8
2008	C9
2010	C11
2012	B12
2014	D12
2016	B14
2018	C15
2020	C15
2022	I12
2024	F12
2026	F12
2028	H11
2038	F15
2040	F16
2200	J14
2202	J15
2208	I3
2210	A6
2212	A7
2500	E7
2502	F7
2503	I6
2504	K6
2600	H3
2602	I3
2605	G11
2606	I13
2607	H3
2608	J12
3000	B7
3002	C7
3004	D7
3006	B7
3008	C7
3010	C7
3012	B8
3014	C8
3016	C8
3018	B8
3020	C8
3022	B9
3024	C9
3026	B10
3028	C9
3030	C10
3032	B10
3034	B10
3036	B11
3038	C11
3040	B11
3042	C11
3044	C12
3046	B13
3048	D12
3050	B13
3052	D13
3054	C14
3056	C14
3058	B14
3060	D14
3062	C15
3064	D15
3066	B16
3068	D16
3070	D9
3072	E11
3074	G11
3076	G12
3078	G12
3080	F12
3082	G12
3084	G12
3086	E13
3088	G13
3090	E13
3091	G15
3092	E14
3093	F15
3094	F14
3096	F14
3106	G15
3108	E15
3110	F15
3112	E16
3114	F16
3116	E16
3118	D10
3120	E10
3121	H5
3122	H6
3123	I6
3124	I5
3125	I5
3126	J5
3127	J5
3128	K6
3129	K6
3130	K5
3131	K5
3132	L5
3133	M5
3134	M6
3135	M6
3136	M5
3137	N5
3138	N5
3200	J10
3202	J10
3204	I14
3206	I11
3208	H15
3210	J11
3212	H15
3214	I11
3216	J11
3218	J12
3220	I12
3222	I16
3224	J16
3226	I12
3228	J12
3230	I13
3232	I13
3234	J13
3236	I13
3238	J13
3240	H14
3242	J15
3244	J15
3254	A7
3500	E6
3502	F6
3600	G2
3999	A3
5600	G3
5601	I3
6000	C10
7000	B7
7002	C7
7003	I5
7004	D7
7005	K5
7006	C8
7007	M5
7008	C10
7010	C10
7012	B11
7014	C13
7016	D13
7018	B14
7020	D14
7022	C15
7024	F11
7026	F11
7028	F13
7030	F13
7032	F13
7038	E14
7040	F16
7042	F16
7200	I13
7202	I14
7204	I15
7208	I15
7402	I13
7500	E7
7501	I11
7505	I11
9000	G13
9001	E2
9002	G2
9003	B3
9004	C3
9005	C3
9006	C3
9007	B3
9009	H2
9010	B5
9011	B5
I690	B11

Layout Auto SCAVEM Panel (Top Side)


1
2
A
B
C
9033
9022
1440
9004
9005
9006
PHILIPS
9038
2608
9039
9034
9041
9028
9035
9021
9025
9040
9023
2208
9027
2304
9026
1955
1956
5601
9031
9024
9043
9030
9032
9029
2600
9042
9044
5600
9001
1940
9036
9037

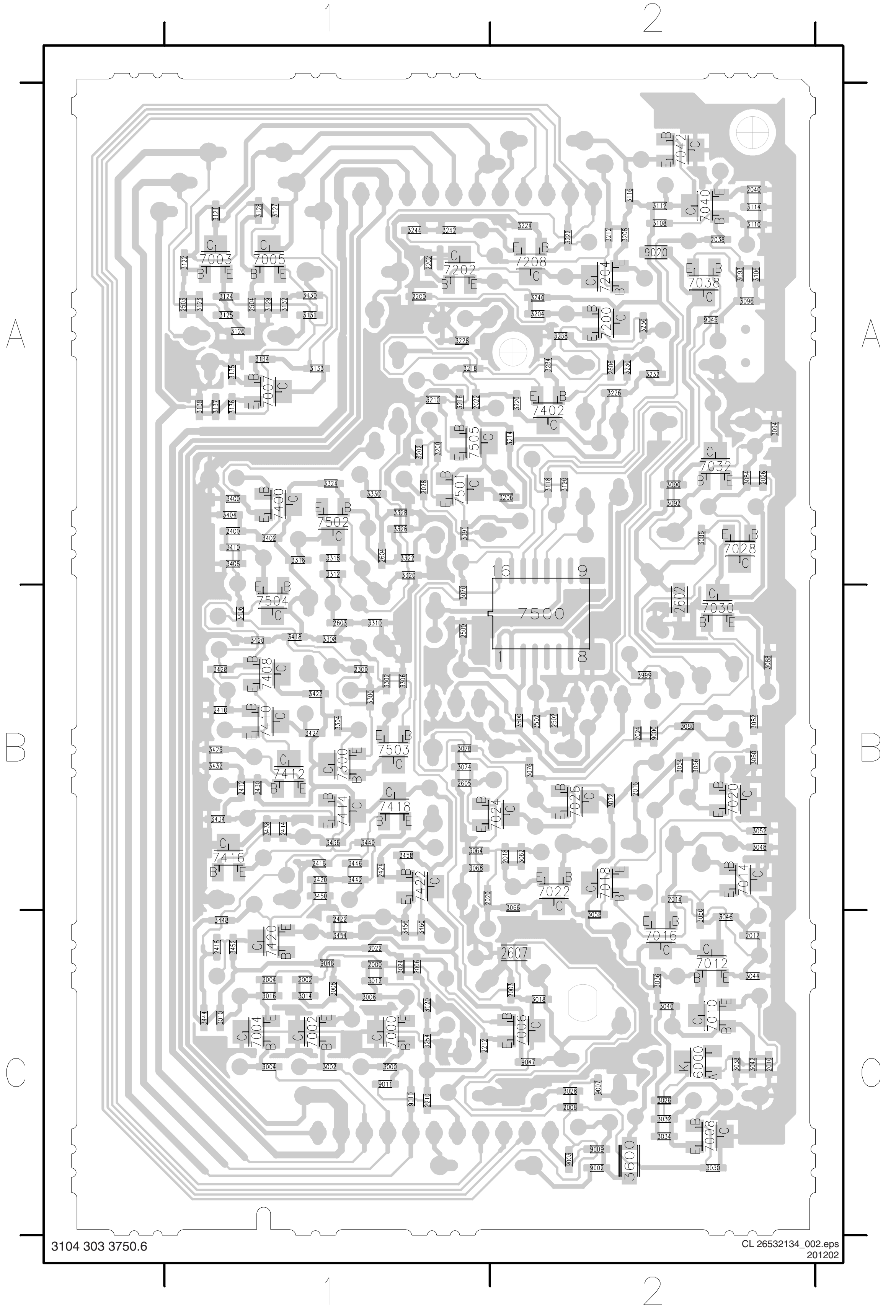
3104 303 3750.6

CL 26532134_001.eps
191202

1440	A2
1940	C2
1955	B1
1956	B2
2208	B1
2304	B2
2600	C1
2608	A2
5600	C1
5601	B1
9001	C2
9004	A2
9005	A2
9006	A2
9021	A2
9022	A1
9023	A1
9024	B1
9025	A1
9026	B2
9027	A2
9028	A2
9029	B2
9030	B2
9031	B1
9032	B1
9033	A1
9034	A1
9035	A2
9036	C1
9037	C1
9038	A2
9039	A2
9040	A1
9041	A1
9042	C1
9043	B1
9044	C2

Layout Auto SCAVEM Panel (Bottom Side)

2000	C1
2002	C1
2003	C2
2004	C1
2006	C1
2008	C2
2010	C2
2012	C2
2014	B2
2016	B2
2018	B2
2020	B1
2022	A1
2024	B2
2026	A2
2028	A1
2038	A2
2040	A2
2200	A1
2202	A1
2210	C1
2212	C1
2300	B1
2400	A1
2410	B1
2412	B1
2414	B1
2416	B1
2418	C1
2420	B1
2422	C1
2424	B1
2500	B1
2502	B2
2503	A1
2504	A1
2602	B2
2603	B1
2604	A1
2605	B1
2606	A2
2607	C2
3000	C1
3002	C1
3004	C1
3006	C1
3008	C1
3010	C1
3012	C1
3014	C1
3016	C1
3018	C2
3020	C1
3022	C1
3024	C1
3026	C2
3028	C2
3030	C2
3032	C2
3034	C2
3036	C2
3038	C2
3040	C2
3042	C2
3044	C2
3046	C2
3048	B2
3050	C2
3052	B2
3054	B2
3056	B2
3058	C2
3060	B2
3062	B2
3064	B1
3066	B2
3068	B1
3070	B1
3072	B2
3074	B1
3076	B2
3078	B1
3080	B2
3082	B2
3084	A2
3086	A2
3088	B2
3090	A2
3091	A1
3092	A2
3093	A2
3094	A2
3096	A2
3106	A2
3108	A2
3110	A2
3112	A2
3114	A2
3116	A2
3118	A2
3120	A2
3121	A1
3122	A1
3123	A1
3124	A1
3125	A1
3126	A1
3127	A1
3128	A1
3129	A1
3130	A1
3131	A1
3132	A1
3133	A1
3134	A1
3135	A1
3136	A1
3137	A1
3138	A1
3200	A1
3202	A1
3204	A2
3206	A2
3208	A2
3210	A1
3212	A2
3214	A2
3216	A1
3218	A1
3220	A2
3222	A2
3224	A2
3226	A2
3228	A1
3230	A2
3232	A2
3234	A2
3236	A2
3238	A2
3240	A2
3242	A1
3244	A1
3254	C1
3300	B1
3302	B1
3304	B1
3306	B1
3308	B1
3310	B1
3312	A1
3316	A1
3318	A1
3320	A1
3322	A1
3324	A1
3326	A1
3328	A1
3330	A1
3400	A1
3402	A1
3404	A1
3406	B1
3408	A1
3410	A1
3418	B1
3420	B1
3422	B1
3424	B1
3426	B1
3428	B1
3430	B1
3432	B1
3434	B1
3436	B1
3438	B1
3440	B1
3442	B1
3444	C1
3446	B1
3448	C1
3450	B1
3452	C1
3454	C1
3456	C1
3458	B1
3460	C1
3500	B2
3502	B2
3600	C2
3999	B2
6000	C2
7000	C1
7002	C1
7003	A1
7004	C1
7005	A1
7006	C2
7007	A1
7008	C2
7010	C2
7012	C2
7014	B2
7016	C2
7018	B2
7020	B2
7022	C2
7024	B1
7026	B2
7028	A2
7030	B2
7032	A2
7038	A2
7040	A2
7042	A2
7200	A2
7202	A2
7204	A2
7208	A2
7300	B1
7400	A1
7402	A2
7408	B1
7410	B1
7412	B1
7414	B1
7416	B1
7418	B1
7420	C1
7422	B1
7500	A2
7501	A1
7502	A1
7503	B1
7504	A1
7505	A1
9000	B2
9002	C2
9003	C2
9007	C2
9009	C2
9010	C1
9011	C1
9020	A2
9045	A2
9046	C1
9047	C2


1
2
A
B
C
7042
7040
9020
7003
7005
7202
7208
7204
7038
7200
7007
7402
7505
7501
7032
7400
7502
7028
16
9
7500
1
8
2602
7030
7504
7408
7410
7503
7412
7300
7418
7414
7024
7026
7020
7416
7422
7022
7018
7014
7016
7420
2607
7012
7004
7002
7000
7006
7010
6000
7008
3600

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8. Electrical Alignments

Index of this chapter
1. General alignment conditions
2. Hardware alignments
3. Software alignments
4. Option settings

8.1 General Alignment Conditions

8.1.1 Start Conditions

Perform all electrical adjustments under the following conditions:
- Power supply voltage: 230 V_{AC}/50 Hz (± 10 %).
- Connect the set to the mains via an isolation transformer with low internal resistance.
- Allow the set to warm up for approximately 20 to 30 minutes.
- Measure the voltages and waveforms in relation to chassis ground (with the exception of the voltages on the primary side of the power supply).
  Caution: never use the cooling fins/plates as ground.
- Test probe: Ri > 10 MΩ, Ci < 20 pF.
- Use an isolated trimmer/screwdriver to perform the alignments.

Perform all electrical adjustments with the following start settings (for all CRTs):
- Set LIGHT SENSOR "off", by setting ACTIVE CONTROL to "off" with the remote control.
- Set CONTRAST to "75", BRIGHTNESS to "42" and COLOUR to "54" (via PICTURE menu).
- Set COLOUR ENHANCEMENT to "off" (via PICTURE menu).
- Set DIGITAL OPTIONS to "Pixel Plus" (via PICTURE menu), unless otherwise stated (for sets without "Pixel Plus" (= Eagle), set to "Natural Motion").
- Set DYNAMIC CONTRAST to "off" (via PICTURE menu).
- Set CATHODE DRIVE at "15" (via SAM - Alignments - General - Drive - Cathode).

8.1.2 Adjustment Sequence

Use the following adjustment sequence:
1. Set the correct TV-set "options" (after storing, restart the set!).
2. Rough adjustment of "Vg2" and "Focus".
3. Rough adjustment of "Geometry".
4. Allow the set to warm up.
5. Accurate adjustment of "Vg2" and "Focus".
6. Accurate adjustment of "Geometry".
7. Software alignments (cut-off, cathode drive, peak white, white drive, etc).

8.2 Hardware Alignments

Note: The Service Alignment Mode (SAM) is described in chapter 5 of the Service Manual. Menu navigation is done with the "CURSOR UP, DOWN, LEFT or RIGHT" keys of the remote control (RC) transmitter.

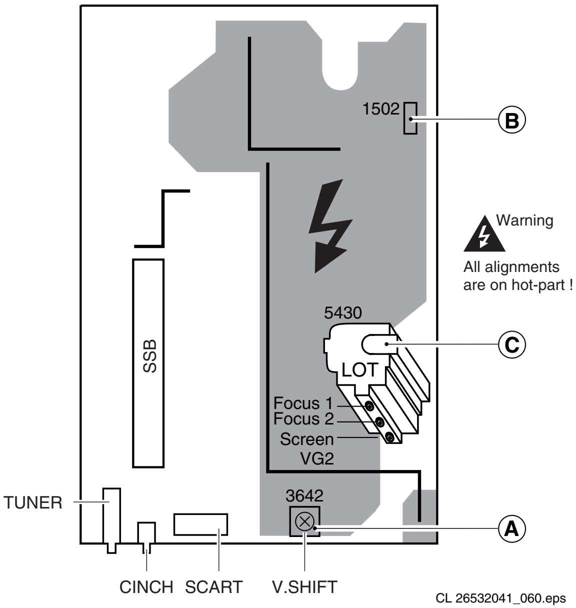

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Figure 8-1 Top-view LSP

8.2.1 Vg2 Adjustment

In the frame-blanking period of the R, G, and B signals applied to the CRT, the "HOP" video processor inserts a measuring pulse with different DC levels. Measure the black level pulse during the vertical flyback at the RGB cathodes of the CRT.
1. Go, via the MENU key, to the normal user menu, select "PICTURE", and set "CONTRAST" and "BRIGHTNESS" to "0".
2. Activate the SAM.
3. Connect the RF output of a pattern generator to the antenna input. Test pattern is a "black" picture (blank screen on CRT without any OSD info).
4. Set the channel of the oscilloscope to 20 V/div and the time base to 20 us/div. Use external triggering on the vertical pulse
   (**caution**: use a trigger point at the "**cold**" side!).
5. Ground the scope at the CRT panel ("**cold**" side) and connect a 10:1 probe to one of the cathodes of the picture tube socket (see diagram F).
6. Measure the cut-off pulse during first full line after the frame blanking. You will see two pulses, one being the cut-off pulse and the other being the white drive pulse. Choose the one with the lowest value; this is the cut-off pulse.
7. Select the cathode with the highest V_dc value for the alignment. Adjust the V_CUTOFF of this gun with the SCREEN (lower) potentiometer on the LOT to the correct DC-value (tolerance is +/- 3 V_dc):
   - 28 inch: 160 V.
   - 29 inch: 160 V.
   - 32 inch (LPD - Philips): 160 V.
   - 32 inch (MEC - Panasonic): 170 V.
   - 36 inch: 170 V.
8. Restore "CONTRAST" to "75" and "BRIGHTNESS" to "42".

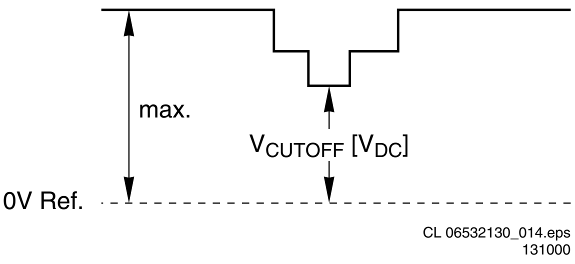

Figure 8-2 Waveform Vg2 alignment

8.2.2 Focus alignment

Notes:

- Tune the set to a "circle with crosshatch" test pattern (use an external video pattern generator).
- Choose picture mode "NATURAL" with the "SMART PICTURE" button on the remote control transmitter.
- **ELDOR** LOT outline:
  - Focus 1 (F1) = Static alignment (black wire).
  - Focus 2 (F2) = Dynamic alignment (red wire).

Focus method for Philips 32 inch tube with bleeder gun

You can recognize a CRT with bleeder gun by its type number:

- W76ERF**052**X044= with bleeder gun
- W76ERF**042**X044= with standard gun.

You can also recognize it by the **ceramic** rectangular plate (this is the bleeder resistance) you will see inside the gun (viewed from above).

1. Start the alignment with the STATIC focus (upper potmeter) turned to the **left** and the DYNAMIC focus (middle potmeter) to the **right**.
2. Adjust the DYNAMIC focus until the horizontal lines at the centre of the screen have minimum width, without introducing a visible haze.
3. Adjust the STATIC focus until the vertical lines at the sides of the screen have minimum width, without introducing a visible haze.
4. Adjust the DYNAMIC focus until the horizontal lines at the centre of the screen have minimum width, without introducing a visible haze.
5. Check overall spot performance and repeat steps 3 and 4 to achieve the best result.

Focus method for all other tubes

1. Start with the STATIC and DYNAMIC focus potentiometers on the LOT at **midway**.
2. Adjust the STATIC focus until the vertical lines at the sides of the screen have minimum width, without introducing a visible haze.
3. Adjust the DYNAMIC focus until the horizontal lines at the centre of the screen have minimum width, without introducing a visible haze.
4. Check overall spot performance and repeat steps 2 and 3 to achieve the best result: a compromise between minimal visible haze at the middle of the screen and sharp lines at the edges of the screen.

8.3 Software Alignments

8.3.1 Introduction

With the software alignments, it is possible to align the Geometry, White Tone, and Tuner IF settings.
Put the set in the SAM (see chapter 5). The SAM menu will now appear on the screen. Select, via **ALIGNMENTS**, one of the sub-menus. They are explained below in the sequence of the sub-menus.

Notes:

- All changes to menu items and alignments are stored automatically, except the option codes. They must be stored manually.
- If the OPTION CODES have been changed **and stored**, the set has to be switched "OFF" and "ON" using the mains switch to activate the new settings (when switching via Standby, the option code settings are NOT read by the microprocessor).
- If an empty EAROM (permanent memory) is detected, all settings are set to pre-programmed default values.

8.3.2 GENERAL

VG2 TEST PATTERN

In this sub-menu, you can turn "On" the OSD feedback for the Vg2 alignment (see chapter 8.2.1).

ADJUST PEAK WHITE LIMITER

Fixed setting: "9".

EHT COMPENSATION

Enter value "9" for the 28, 29 and 32 inch picture tubes
Enter value "10" for the 36 inch picture tubes.

SOFT CLIPPER

Fixed setting: Pwl + 0%

LUMA GAIN

Fixed setting: 2.

IF AFC

Supply, via an external video generator (e.g. PM5518), a TV signal with strength of at least 1 mV and a frequency of 475.25 MHz. Use system BG if possible, otherwise match the system of your generator with the received signal in the set.

Alignment procedure:

1. Go to the user "Installation" menu.
2. Select "Manual Installation".
3. Tune the TV-set to the system and frequency described above via "Search" - "475" - "OK".
4. If the frequency, showed in the line "Fine tune", is between 475.18 MHz and 475.31 MHz, you **do not** need to re-adjust the "IF AFC".
5. If not, adjust the frequency in the "Fine tune" line to 475.25 MHz and "Store" the program (this is **very important** because this will disable the AFC algorithm).
6. Now go to the SAM and select ALIGNMENTS - GENERAL - IF AFC.
7. During the IF AFC parameter adjustment, one can see OSD feedback in the top of the screen.
8. This OSD feedback can give 4 kind of messages:

Table 8-1 OSD feedback of AFC alignment

AFC-window	AFC-frequency vs. reference
Out	High
In	High
In	Low
Out	Low

1. The first item (IN or OUT) informs you whether you are in or out the AFC-window.
2. The second item (HIGH or LOW) informs you about whether the AFC-frequency is too high or too low.
3. First, you must align the IF AFC parameter such that you come into the AFC-window (= IN).
4. Then you must look for the point where the IF AFC parameter changes from HIGH to LOW. This level is the value you are looking for.

5. After adjustment, STORE the value.
6. Now return to the user "Installation" menu.
7. Select "Manual Installation" - "Search" - "475" - "OK" and "Store". This will set the AFC "ON" again.

Service tip: If you do not trust the frequency accuracy of your service generator, connect it to a "good" TV set and check it with the "Fine tune"-line.

IF LPRIME AFC

Use the same procedure as for the IF AFC alignment, but set the video generator to SECAM L/L' (only necessary for countries that have or can receive this system).

TUNER AGC

1. Set the external pattern generator to a colour bar video signal and connect the RF output to the aerial input. Set the amplitude to 10 mV and set the frequency to 475.25 MHz.
2. Connect a DC multimeter between pin 1 and the shielding of the Tuner (item 1200 on the LSP).
3. Adjust the TUNER AGC value (default value is 25) with the LEFT/RIGHT cursor keys until the voltage at pin 1 of the tuner lies between 3.8 and 2.3 V.
4. STORE the alignment.

TUNER AGC TUNER 2

Use the same procedure as described above (under TUNER AGC) with the set switched to the DW source. Measure on pin 1 of the DW Tuner (this is only applicable for sets with 2-tuner DW execution).

BLEND INTENSITY

Use this alignment when you replace the microcontroller or the HOP. It aligns the level of transparency of the menu-picture blended into the main-picture.
Position the "BRIGHTNESS", "CONTRAST", and "COLOUR" setting in the middle position (picture-menu).

1. Apply a signal with a 100 % white video-pattern.
2. Connect an oscilloscope to pin 8 of connector 1298 of the CRT panel and measure the Red output level.
3. Align the BLEND INTENSITY parameter such, that the blended signal is 65 % of the black-white amplitude. In practice, this is about 1.3 V (blended signal) versus 2 V (full white signal).
4. The parameter can be adjusted in between "0" and "31".

8.3.3 DRIVE

Method 1 (with colour analyser):

1. Select TEST PATTERN and turn it ON. During the following alignments, you will get a white block in middle of the screen.
2. Select CATHODE and adjust the set to the correct light output. This setting depends on the picture tube size and brand. See table "Cathode parameter" for the colour analyser readings.
3. Select a COLOUR TEMPERATURE (COOL, NORMAL, or WARM).
4. Adjust the white level (via RED, GREEN, and BLUE) according to the values in table "White levels".

Table 8-2 Cathode parameter

CRT	Light output (cd/m^2)
28" RF WS	400 (Mk1), 450 (Mk2)
29" RF 4:3	400
32" RF WS	380 (LPD), 370 (MEC)
36" RF WS	330

Table 8-3 White levels

ColourTemp. (K)	Cool (10200)	Normal (8700)	Warm (6500)
X	280	289	313
Y	287	299	329

Method 2 (without colour analyser):

Without having a colour-analyser, one can set some parameters. This is the next best solution. The setting-parameters are average values coming from production (statistics).

1. Select CATHODE and enter the value "15" (for all picture tubes).
2. Select a COLOUR TEMPERATURE (COOL, NORMAL, or WARM).
3. Set the RED, GREEN, and BLUE parameters according to the (delta) values in table "Tint settings".
4. RED BL OFFSET: herewith the black level can be aligned very precise (default value is "7").
5. GREEN BL OFFSET: herewith the black level can be aligned very precise (default value is "7").

Table 8-4 Tint settings

	Δ Cool	Normal	Δ Warm
R	-1	37	+3
G	0	30	0
B	+4	31	-10

8.3.4 LUM. DEL. (Luminance Delay)

With this alignment, you place the luminance information exactly on the chrominance information (brightness is pushed onto the colour). Use a colour bar/grey scale pattern as test signal.

- **LUM. DELAY PAL BG:** Apply a PAL BG colour bar/grey scale pattern as a test signal. Adjust this parameter until the transients of the colour part and black and white part of the test pattern are at the same position. Default value = 9.
- **LUM. DELAY PAL I:** Apply a PAL I colour bar/grey scale pattern as a test signal. Adjust this parameter until the transients of the colour part and black and white part of the test pattern are at the same position. Default value = 9.
- **LUM. DELAY SECAM:** Apply a SECAM colour bar/grey scale pattern as a test signal. Adjust this parameter until the transients of the colour part and black and white part of the test pattern are at the same position. Default value = 11.
- **LUM. DELAY BYPASS:** apply a NTSC colour bar/ greyscale pattern as a test signal. Adjust this value until the transients of the colour and black & white part of the test area are at the same position. Default value = 10.

8.3.5 GEO-NOR (Normal Geometry)

Note: Use for all geometry alignments an **external** pattern generator with a geometry pattern (e.g. crosshatch).

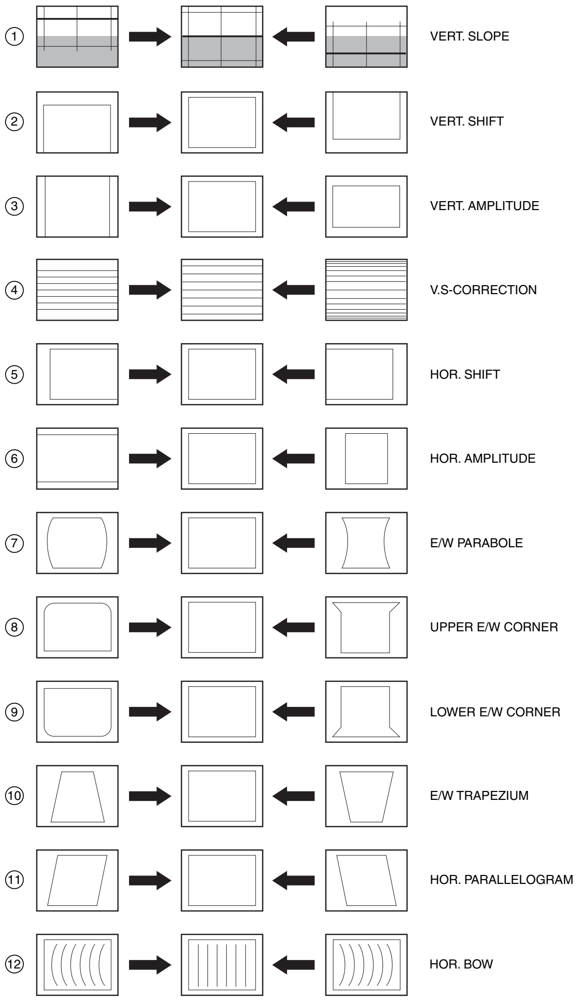

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Figure 8-3 Geometry Alignments

Service tip: When the set is equipped with a rotation coil, use this menu item to check its correct alignment. If alignment is not correct, go to the INSTALLATION menu, choose SETUP, press OK, and choose PICTURE TILT. With the use of a crosshatch test pattern, align it to a correct horizontal picture.

V. SLOPE

Align the zero crossing of the frame deflection to the mechanical middle of the picture tube.

1. First set the start conditions for 16:9 sets: V. S-CORRECTION value on "16" for the 28 inch, "32" for the 29 inch, "16" for the 32 inch (LPD - Philips tube), "27" for the 32 inch (MEC - Panasonic tube), or "20" for the 36 inch sets. Position the boundary-stripes of the test pattern on the edges of the picture tube.
2. Align V. SLOPE (during alignment, the lower half of the picture is blanked) such, that the middle line of the test pattern is matched with the edge of the pattern transient in the middle of the picture.
3. Repeat the alignment if necessary.

V. SHIFT AND V. AMPLITUDE (vertical alignment)

Align the vertical centre and height of the picture.

1. Use V. AMPLITUDE to align the vertical amplitude so that the entire test pattern is visible.
2. Set V. SHIFT to value "32".
3. Connect a voltmeter (V_dc) between R3624 and "hot" ground.
4. Adjust the DC voltage to "0" with potmeter R3642 (see figure 8-1).
5. Use V. SHIFT again to align the test pattern roughly vertically in the middle.
6. Repeat the alignment if necessary.

V. S-CORRECTION

Align for equal blocks on top, middle, and bottom of the picture tube.

Align V. S-CORRECTION such that a block at the top (or bottom) of the picture has the same height as a block in the middle of the picture.

H. SHIFT AND H. AMPLITUDE (horizontal alignment)

1. Use H. AMPLITUDE to align the horizontal amplitude so that the entire test pattern is visible.
2. Use H. SHIFT to align the picture horizontally in the middle.
3. Repeat the H. AMPLITUDE alignment if necessary.

Note: In case the horizontal linearity in wide-screen mode is out of tolerance, add a "DC-shift correction" panel (3104 328 06230) to connector 1419 of the DAF-panel [diagram I]. On the DC-shift panel, cut diode **6433** for correction to the right or diode **6432** for correction to the left.

Caution: Be sure to switch "OFF" the set first. *Never* plug in a not pre-aligned module in a playing set!

EAST/WEST ALIGNMENT

1. Use EAST/WEST PARABOLA to align the vertical lines until straight.
2. Use UPPER EAST/WEST CORNER to align the vertical lines in the upper corners until straight.
3. Use LOWER EAST/WEST CORNER to align the vertical lines in the lower corners until straight.
4. Use EAST/WEST TRAPEZIUM to align for a rectangular.
5. Use HORIZONTAL BOW to correct the E/W parabola such, that it becomes symmetrical.
6. Use HORIZONTAL PARALLELOGRAM to align for straight vertical lines if necessary.

Repeat steps 1 to 6 if necessary.

8.3.6 GEO-4:3 (4:3 geometry alignment in 16:9 sets)

1. Use EAST/WEST PARABOLA to align the vertical lines until straight.
2. Use UPPER EAST/WEST CORNER to align the vertical lines in the upper corners until straight.
3. Use LOWER EAST/WEST CORNER to align the vertical lines in the lower corners until straight.

8.3.7 GEO-SW (Super Wide geometry alignment in 16:9 sets)

You only need to set the following values (if the normal geometry alignment has been performed correctly):

1. V. S-CORRECTION: enter value of the NORMAL GEOMETRY alignment.
2. H. AMPLITUDE: enter value of the NORMAL GEOMETRY alignment subtracted by "1".
3. EAST/WEST PARABOLA: enter value of the NORMAL GEOMETRY alignment.

8.3.8 GEO-100HZ (Digital Scan geometry alignment)

As all alignments are done in Pixel Plus mode (at 75 Hz), the 100 Hz mode needs an extra alignment:

- Select GEO-100HZ. The set automatically switches to 100 Hz mode.
- V. SLOPE: match the middle line of the test pattern with the upper edge of this blanking picture.
- After the alignment, return to the previous menu. The set automatically returns to "Pixel Plus" mode.

8.4 Option Settings

8.4.1 Introduction

The microprocessor communicates with a large number of I2C ICs in the set. To ensure good communication and to make digital diagnosis possible, the microprocessor has to know which ICs to address. The presence / absence of these specific ICs (or functions) is made known by the option codes.

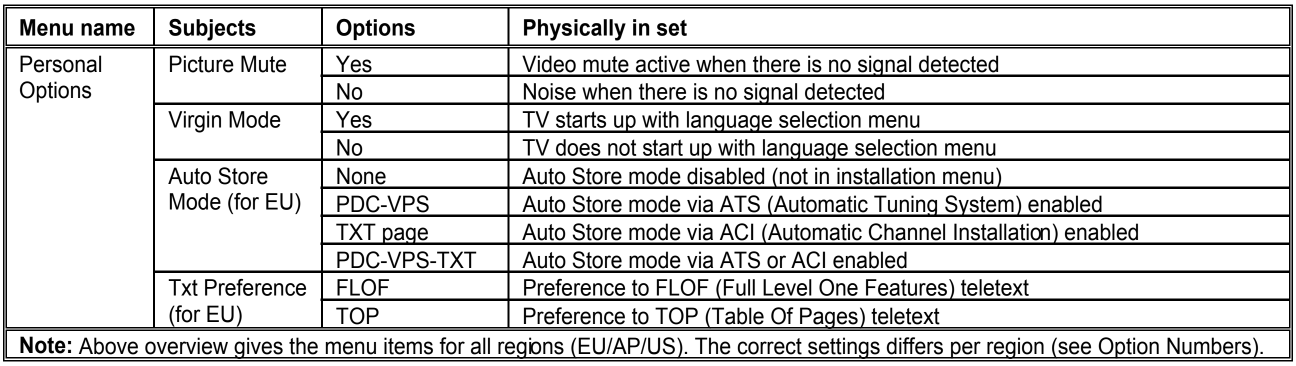
- You can set the "hardware related" options via the SAM - ALIGNMENTS - OPTIONS or OPTION NUMBERS menu.
- You can set the "software related" options via the SAM - DEALER OPTIONS menu.

Notes:

- After changing the option(s), save them with the STORE command.
- The new option setting is only active after the TV is switched "off" and "on" again with the AC power switch (the EAROM is then read again).

8.4.2 DEALER OPTIONS

Select this sub-menu to set the initialisation codes (= options) of the set via text menu's.



Menu name	Subjects	Options	Physically in set
Personal Options	Picture Mute	Yes	Video mute active when there is no signal detected
		No	Noise when there is no signal detected
	Virgin Mode	Yes	TV starts up with language selection menu
		No	TV does not start up with language selection menu
	Auto Store Mode (for EU)	None	Auto Store mode disabled (not in installation menu)
		PDC-VPS	Auto Store mode via ATS (Automatic Tuning System) enabled
		TXT page	Auto Store mode via ACI (Automatic Channel Installation) enabled
		PDC-VPS-TXT	Auto Store mode via ATS or ACI enabled
	Txt Preference (for EU)	FLOF	Preference to FLOF (Full Level One Features) teletext
		TOP	Preference to TOP (Table Of Pages) teletext
Note: Above overview gives the menu items for all regions (EU/AP/US). The correct settings differs per region (see Option Numbers).			

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Figure 8-4 Dealer options overview

8.4.3 SERVICE OPTIONS

Select this sub-menu to set the initialisation codes (= options) of the set via text menu's.

Menu-item	Subjects	Options	Description
Chassis/Region	Chassis	EMGS 2001	Service name = EM3
		EMGS 2002	Service name = EM5
		EMGS TOP 2003	Service name = EM6
	Region	AP NTSC	Only for AP
		US	Only for US
Dual screen	PIP/Dual Screen	Yes	Feature present.
		No	Feature not present.
	Text/EPG	Yes	Feature present.
		No	Feature not present.
	DS/PIP Tuner	Yes	Only selectable if Dual Screen option is "on"
		No	Feature not present.
Teletext	Flash RAM	Yes	Feature present.
		No	Feature not present.
	NexTView	None	Feature not present.
		Textguide only	Feature present, but only as text guide.
		Nextview 2c3	Feature present, for countries that support this.
Picture Tube	CRT Type	4 by 3	4:3 picture tube.
		16 by 9	16:9 picture tube.
	Picture Rotation	Yes	Frame rotation circuitry present.
		No	Frame rotation circuitry not present .
	CRT size	28 / 32 / 36 29 / 34 / 38	CRT size (in inches). MEC= Panasonic, II= Mark 2
	Anti MoirÈ filter	Yes	Feature present.
		No	Feature not present.
Video repro	Featurebox type	1050i/1250i	HD input
		Eagle	Eagle present (Pixel Plus).
	Lightsensor	Yes	Feature present.
		No	Feature not present.
	2D Combfilter	Yes	Feature present.
		No	Feature not present.
	Picture improvement	Yes	LTP (TOPIC) present.
		No	LTP (TOPIC) not present.
	Auto Scavem	Yes	Feature present.
		No	Feature not present.
	Signalling bits	Yes	For 16:9 sets
		No	For 4:3 sets
Audio Repro	Dolby	None	Set without Dolby.
		Pro Logic	Set with Dolby ProLogic.
		Virtual	Sets with Virtual Dolby
	Rear speakers	Speakerless	Virtual Dolby (without rear speakers).
		Cordless	Wireless active surroundbox present.
	Subwoofer present	Yes	Feature present.
		No	Feature not present.
	Acoustic system	None, FL9-DAS, FL11, FL12, PV02, FL13, Soft Designline, Tech Designline.	
	AVL	On	Automatic Volume Limiter 'on'.
		Off	Automatic Volume Limiter 'off'.
Source Selection	AV3 2fH (2002)	Yes	Not selectable yet
		No	Feature not present.
	AV4 2fH (2002)	Yes	Not selectable yet
		No	Feature not present.
	EXT3 2fH (2003)	Yes	Feature present.
		No	Feature not present.
	EXT4 2fH (2003)	Yes	Not selectable for this chassis
		No	Feature not present.
Miscellaneous	Home Cinema	Yes	Set with Home Cinema Link (EU only)
		No	Set without Home Cinema Link
	Integrated RC	Yes	Feature present.
		No	Feature not present.
	Tuner type	UV1316	Set with Philips tuner.
		TEDE9	Set with Alps tuner.
	Integrated Radio	Yes	Feature present.
		No	Feature not present.
	P50 DVD menu line	Yes	Feature present (only in sets with Home Cinema).
		No	Feature not present.
Option no.	Group 1		Group 1 option code overview (see CRT sticker).
	Group 2		Group 2 option code overview (see CRT sticker).

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Figure 8-5 Option overview

8.4.4 OPT. NO. (Option numbers)

Select this sub menu to set all options at once (expressed in two long strings of numbers).

An option number (or option byte) represents a number of different options. When you change these numbers directly, you can set all options very fast. All options are controlled via eight option numbers.
When the EAROM is replaced, all options will require a re-setting. To be certain that the factory settings are reproduced exactly, you must set both option number lines. You can find the correct option numbers on a CRT sticker inside the TV set.

Example: The CRT sticker gives the following option numbers:
04187 08526 50001 00000
04182 00001 00000 00070
The first line (group 1) indicates options 1 to 4, the second line (group 2) options 5 to 8 (see tables below).
Every 5-digit number represents 16 bits (so maximum number can be 65536 if all options are set).
When all the correct options are set, the sum of the decimal values of each Option Byte (OB) will give the option number.

OB	Bit	Option name	Settings (in decimal values) for EM5.1E chassis		Option number
1	0	Featurebox	0= None	2= Prozonic 3= Eagle 4= Falconic 5= Falconic 1050i 1250i	Sum OB1 (decimal)
	1				
	2				
	3	2D Comb Filter	0= Off	8= On	
	4	Auto-Scavem	0= Off	16= On	
	5	n.a. *	0		
	6	Light Sensor	0= Off	64= On	
	7	Luma Trans. Proc.	0= Off	128= On (for non-Eagle sets)	
	8	n.a. *	0		
	9	n.a. *	0		
	10	n.a. *	0		
	11	n.a. *	0		
	12	WSS	0= Off	4096= On	
	13	3D Comb Filter	0= Off	8192= On	
	14	Pixel Plus	0= Off	16384= On	
	15	n.a. *	0		
2	0	n.a. *	0		Sum OB2 (decimal)
	1	Dolby ProLogic	0= Off	2= On	
	2	Virtual Rear Spkrs	0= Off	4= On	
	3	Cordless Rear Spkrs	0= Off	8= On	
	4	Dolby Digital	0= Off	16= On	
	5	Virtual Dolby	0= Off	32= On	
	6	Subwoofer	0= No subwoofer present	64= Subwoofer present	
	7				
	8	Chassis	0= EM6	256= EM5 512= EM3 3840= Others	
	9				
	10				
	11				
	12	EPG Type	0= Off (US)	8192= On (EU)	
	13	Flash RAM	0= Off (US)	8192= On (EU)	
	14	EPG Version	0= Off (US)	16384= Text guide only 32768= NexTView 2C3 (EU) 49152= NexTView 2	
	15				
3	0	n.a. *	0		Sum OB3 (decimal)
	1	n.a. *	0		
	2	AV4 (2fH)	0= Off	4= On (not selectable)	
	3	AV3 (2fH)	0= Off	8= On (not selectable)	
	4	Dual Screen	0= Off	16= On	
	5	n.a. *	0		
	6	TXT/EPG/DS	0= Off	64= On	
	7	n.a. *	0		
	8	Aspect Ratio	0= 4:3	256= 16:9	
	9	Tilt	0= Off	512= On	
	10	Monitor	0= Off	1024= Reserved for FTV	
	11	Integrated Radio	0= Off	2048= On	
	12	Stand Alone	0= Off	4096= Reserved for FTV	
	13	Integrated DVD	0= Off	8192= On (not appl. for FTV)	
	14	Home Cinema	0= Off	16384= On	
	15	Integrated RC (P50)	0= Off	32768= On	
4	0	PIP/Aux. Tuner	0= Off	1= On	Sum OB4 (decimal)
	1	n.a. *	0		
	2	China IF	0= Off	4= On	
	3	Tuner	0= Philips	8= Alps	
	4	Teletext	0= Off	16= On	
	5	n.a. *	0		
	6	n.a. *	0		
	7	n.a. *	0		
	8	Digital Module (MILO)	0= Off	256= On	
	9	Integrated Harddisk	0= Off	512= On	
	10	n.a. *	0		
	11	n.a. *	0		
	12	Anti Aging	0= Off	4096= Reserved for FTV	
	13	DVD-door lock	0= Off	8192= On	
	14	n.a. *	0		
	15	n.a. *	0		

Note: Bits that are not used have a fixed value of "0", and are not mentioned in above overview.

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Figure 8-6 Option bytes Group 1

OB	Bit	Option name	Settings (in decimal values) for F22Rx_AA chassis		Option Number
5	0	n.a. *	0		Sum OB5 (decimal)
	1 2	Auto Store Mode	0= None	2= PDC/VPS 4= TXT Page 6= PDC/VPS/TXT Page	
	3	Korean Stereo	0= Off	8= On	
	4	Picture Mute	0= Off	16= On	
	5	n.a. *	0		
	6	Virgin	0= Off	64= On	
	7	n.a. *	0		
	8	n.a. *	0		
	9	n.a. *	0		
	10	n.a. *	0		
	11	n.a. *	0		
	12	TXT Preference	0= TOP	4096= FLOF	
	13	n.a. *	0		
	14	n.a. *	0		
	15	n.a. *	0		
6	0	P50 DVD menu-line	0= Off	1= On	Sum OB6 (decimal)
	1	n.a. *	0		
	2	n.a. *	0		
	3	n.a. *	0		
	4 5 6 7	Region	0= EU	16= AP PAL-multi 32= AP NTSC 48= US 64= LATAM 80= Australia	
	8	n.a. *	0		
	9	n.a. *	0		
	10	n.a. *	0		
	11	n.a. *	0		
	12	n.a. *	0		
	13	n.a. *	0		
	14	n.a. *	0		
	15	n.a. *	0		
7	0	EXT4 1fH (EU)	0= Off (EM5)	1= On	Sum OB7 (decimal)
	1	EXT 2fH 1 (EU)	0= Off (EM5)	2= On	
	2	EXT 2fH 2 (EU)	0= Off	4= On	
	3	EXT VGA (EU)	0= Off	8= On	
	4	EXT DVI (EU)	0= Off	16= On	
	5	EXT3 (EU)	0= Off	32= On	
	6	n.a. *	0		
	7	n.a. *	0		
	8	n.a. *	0		
	9	AV 2fH 1 (non-EU)	0= Off	512= On	
	10	AV 2fH 2 (non-EU)	0= Off	1024= On	
	11	AV VGA (non-EU)	0= Off	2048= On	
	12	AV DVI (non-EU)	0= Off	4096= On	
	13	n.a. *	0		
	14	n.a. *	0		
	15	n.a. *	0		
8	0 1 2 3	Cabinet	0= FL6	1= FL7 2= FL8 3= FL9 DAS 4= FL9 Monitor 5= FL10 6= FL11 7= FL12 8= FL14 (n.a.) 9= PV02 10= FL13 11= Soft Design Line 12= Tech Design Line	Sum OB8 (decimal)
	4	n.a. *	0		
	5	n.a. *	0		
	6	AVL	0= Off	64= On	
	7	n.a. *	0		
	8 9 10 11	Picture tube size	0= 28 inch	256= 32 inch 512= 36 inch 768= 29 inch 1024= 34 inch 1280= 38 inch 1536= 32 inch MEC 1792= 28 inch Mk2 2048= 36 inch FP 3840= Other	
	12	Anti MoirÈ	0= Off	4096= On	
	13	n.a. *	0		
	14	n.a. *	0		
	15	n.a. *	0		

Note: Bits that are not used have a fixed value of "0", and are not mentioned in above overview.

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Figure 8-7 Option bytes Group 2

9. Circuit Descriptions, Abbreviation List, and IC Data Sheets

Index of this chapter

1. Introduction
2. Block diagram
3. Double Window
4. Abbreviation list
5. IC Data Sheets

Note:

- Only **new** circuits (compared to the EM5E) are described. For the other circuit descriptions, see the manual of the EM5E. This manual is available in different languages:
  - 3122 785 12560 = English.
  - 3122 785 12571 = German.
  - 3122 785 12581 = French.
- Figures can deviate slightly from the actual situation, due to different set executions.
- For a good understanding of the following circuit descriptions, please use the diagrams in chapter 6 and 7. Where necessary, you will find a separate drawing for clarification.

9.1 Introduction

For the EM5.1E chassis, there are three ranges foreseen, with the following delta's (compared to the EM5E):

- 93xx: No NexTView level 3, No 3rd SCART, No PIP, Eco Scavem, Virtual Dolby Surround.
- 94xx: New RC, 2-tuner PIP/DW, 3rd SCART with PIP/DW input, Auto Scavem, Virtual Dolby Surround.
- 95xx: New RC, 1-tuner PIP/DW, 3rd SCART with PIP/DW input, Auto Scavem, Dolby ProLogic.

The chassis consists of a full sized LSP/SSP combination and a smaller double sided four layer SSB, which is mounted on the SSP using a SIMM connector. The main functionalities are:

- LSP: supply, deflection, and sound amplification.
- SSP: tuner input, SIMM interface, I/O, and interface provisions for extended functions such as PIP.
- SSB: core TV functionalities, being TXT/control, video and audio decoding, feature box, video featuring, and sync/geometry control.

The LSP (single sided) is built up very conventional, with hardly any surface mounted components on the copper side. Similar with the EM3 (but different as with the MG-chassis), the EM5 LSP has a very large 'hot' part, including both deflection coils.

The SSB is a high tech module (four layer, 2 sides reflow technology, full SMC) with very high component density and complete shielding for EMC-reasons. Despite this, it is designed in such a way, that repair on component level is possible. To achieve this, attention was paid to:

- The position of service test lands: most of them are at the Tuner side.
- Accessibility (Tuner side). If there are still problems with the accessibility, one can order an extension board (see parts list).
- Clearance around surface mounted ICs (for replacing).
- Detailed diagnostics and fault finding is possible via ComPair.

In the architecture, provisions are made for more features/extensions like:

- Wireless surround sound.
- Integrated DVD-player.

The availability of Double Window (DW) or Picture In Picture (PIP) depends on the model range. There are 2 different executions, depending on the number of tuners:

- One Tuner: The TV has only one tuner (on the LSP), so the PIP-picture can be either from this tuner or from an external AV-source.
- Two Tuners: In this case there are 2 separate tuners, so the main picture and the DW picture are independently selectable. The IF signal from the main tuner is processed on the SSB, while the IF signal from the 2nd tuner is processed by a 2nd BOCMA video processor on the DW-panel. The source selection is done via an I/O expander.

9.2 Block Diagram

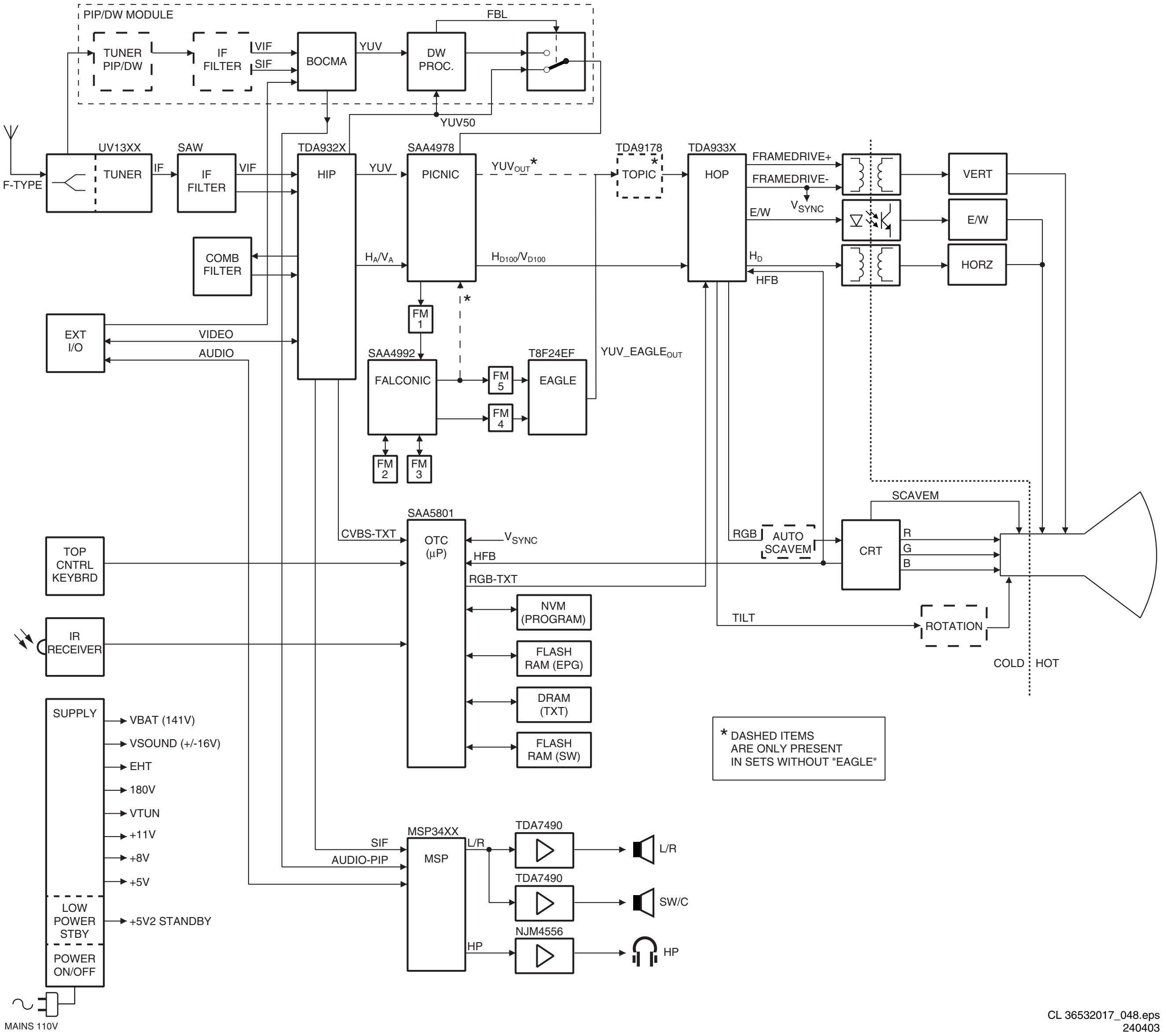
PIP/DW MODULE
TUNER PIP/DW
IF FILTER
VIF
SIF
BOCMA
YUV
DW PROC.
FBL
YUV50
F-TYPE
UV13XX
TUNER
IF
SAW
IF FILTER
VIF
TDA932X
HIP
YUV
SAA4978
PICNIC
YUV_OUT *
TDA9178
TOPIC
TDA933X
HOP
FRAMEDRIVE+
FRAMEDRIVE-
V_SYNC
E/W
VERT
E/W
HORZ
H_D
HFB
COMB FILTER
H_A/V_A
H_D100/V_D100
EXT I/O
VIDEO
AUDIO
FM 1
SAA4992
FALCONIC
FM 5
FM 4
T8F24EF
EAGLE
YUV_EAGLE_OUT
FM 2
FM 3
SCAVEM
SAA5801
CVBS-TXT
OTC (µP)
V_SYNC
HFB
RGB-TXT
RGB
AUTO SCAVEM
CRT
R
G
B
TOP CNTRL KEYBRD
NVM (PROGRAM)
IR RECEIVER
FLASH RAM (EPG)
TILT
ROTATION
COLD
HOT
DRAM (TXT)
FLASH RAM (SW)
* DASHED ITEMS ARE ONLY PRESENT IN SETS WITHOUT "EAGLE"
SUPPLY
VBAT (141V)
VSOUND (+/-16V)
EHT
180V
VTUN
+11V
+8V
+5V
LOW POWER STBY
+5V2 STANDBY
POWER ON/OFF
MAINS 110V
SIF
AUDIO-PIP
MSP34XX
MSP
L/R
HP
TDA7490
L/R
TDA7490
SW/C
NJM4556
HP

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Figure 9-1 Block diagram

The Tuner (item 1200) is a PLL tuner and delivers the IF-signal, via audio & video SAW-filters, to the HIP (High-end Input Processor). The HIP has the following functions:

- IF modulation.
- Video source- and record select.
- Colour decoder.
- Synchronisation.

Three SCART-connectors can be used:

- SCART1 is fully equipped,
- SCART2 is meant for VCR. Pin 10 is used for Easylink (P50) and there is a possibility for Y/C in. The CVBS-out on pin 19 is meant for WYSIWYR (What You See Is What You Record).
- SCART3 is a RGB/CVBS and audio L/R input. It can be used as 2nd tuner input, in case of a 1-Tuner DW/PIP set.

The HIP delivers YUV and sync signals to the PICNIC. This IC takes care of:

- Analogue to Digital conversion and vice versa.
- 50 to 100 Hz conversion.
- Panorama mode.
- Noise reduction.
- Dynamic contrast.

The '2fH features'-block in the diagram gives several options:

- For Digital Scan, the PICNIC is required.
- For Natural Motion, the FALCONIC is required.
- For Pixel Plus, the EAGLE is required.

After the PICNIC the, now 100 Hz, YUV-signals are fed to the FALCONIC for 'Natural Motion', followed by the Eagle for 'Pixel Plus' enhancement (if present). The processed YUV signals (from Eagle or PICNIC) are, together with the sync-signals from the PICNIC, then fed to the HOP (High-end Output Processor). This IC handles the video control and geometry part. The RGB-signals for TXT/OSD (from the microprocessor) are also inserted via the HOP. The video part delivers the RGB signals to the CRT-panel and the geometry part delivers the H-drive, V-drive, and a drive-signal for rotation.

Both deflection circuits are 'hot' and located on the LSP. They are driven by the HOP. To make a galvanic separation, the Line Drive is driven via transformer 5410 and the Frame Drive via transformer 5621.The horizontal output stage generates some supply voltages and the EHT-, focus- and Vg2-voltages.

The RGB amplifiers on the CRT-panel are supplied with 200 V from the LOT.

The Scavem circuit modulates transitions of the Luminance (Y) signal on the horizontal deflection current, giving a sharper picture.

The sound part is built around the MSP34xx (Multi-channel Sound Processor) for IF sound detection, sound control and source selection. Dolby decoding is also done by the MSP. Amplification is done via a 'class D' integrated power amplifier IC, the TDA7490.

The microprocessor, called OTC (OSD, Teletext and Control) takes care of the analogue TXT input- and output processing. The OTC, ROM, and RAM are supplied with 3.3 V, which is derived from the +5V2.
The NVM (Non Volatile Memory) is used to store the settings, one Flash-RAM contains the set software, the other Flash-RAM (7012) is for EPG, and the DRAM is used for storing the Teletext pages.

There is a separate Standby Supply, in order to reduce the Standby power consumption. During Standby, the Main Supply is switched 'off' (via TS7529).
A relay (1550) is used to switch the degaussing circuit. It is switched 'on' after set start-up and switched 'off' by the P after 12 s.
The Main Supply, an SMPS based on the 'down-converter' principle, generates the 141 V (V_BAT) and the +/- 16 V for the audio part.
Note: Voltage V_BAT is not mains isolated ('hot'), but is alignment free.

9.3 Double Window

9.3.1 Introduction

The Double Window (DW) panel provides the option for viewer to see two pictures or programs on the displayed area of a TV screen. The displayed pictures can be in PIP or DW mode. The viewer can also select the size and position of the "second" picture.
There are basically two types of configurations. One with one (main) tuner and one with an additional tuner on the DW panel.

9.3.2 Block Diagram

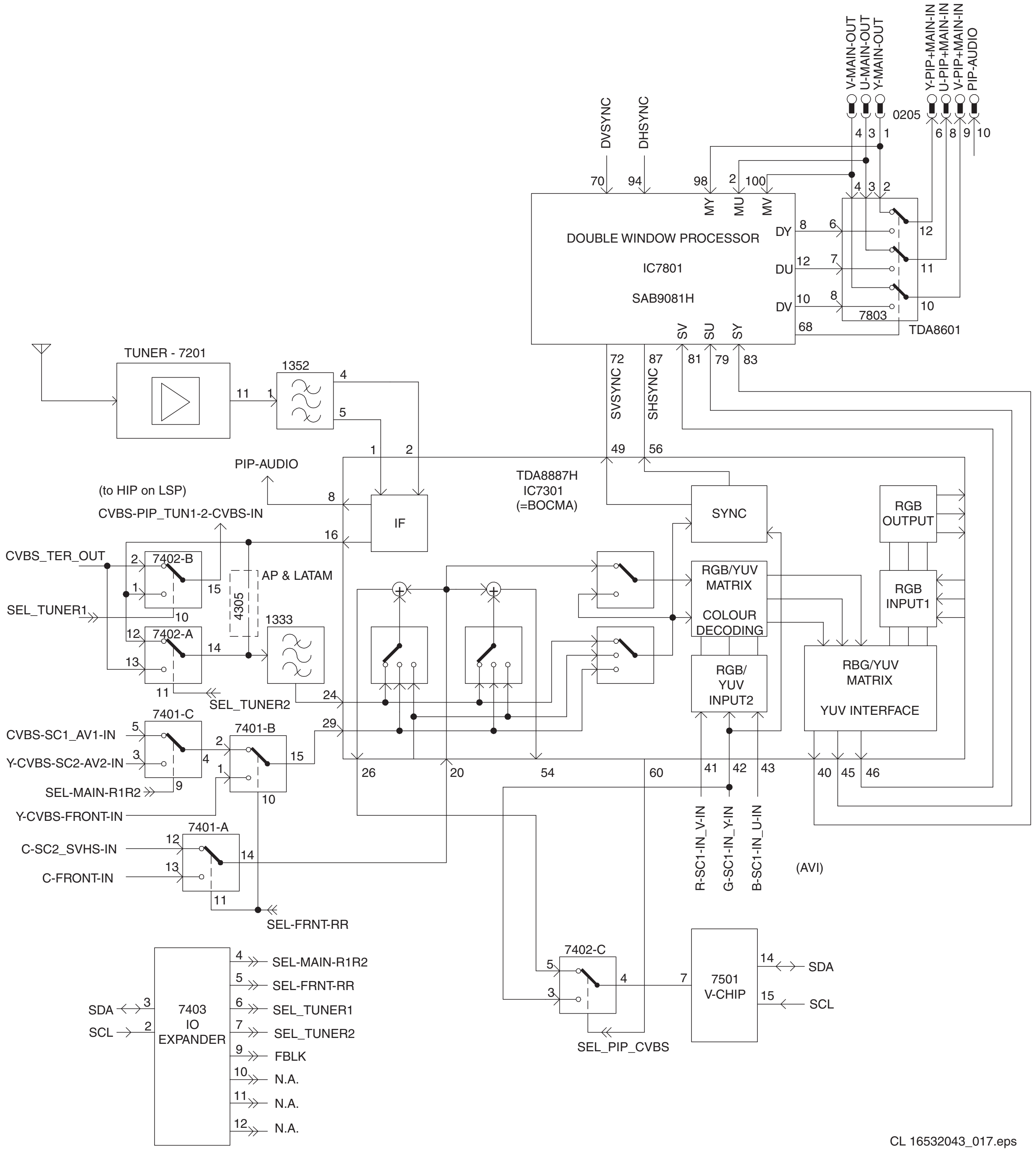
V-MAIN-OUT
U-MAIN-OUT
Y-MAIN-OUT
Y-PIP+MAIN-IN
U-PIP+MAIN-IN
V-PIP+MAIN-IN
PIP-AUDIO
0205
DVSYNC
DHSYNC
DOUBLE WINDOW PROCESSOR
IC7801
SAB9081H
MY
MU
MV
DY
DU
DV
SV
SU
SY
7803
TDA8601
TUNER - 7201
1352
PIP-AUDIO
(to HIP on LSP)
CVBS-PIP_TUN1-2-CVBS-IN
IF
TDA8887H
IC7301
(=BOCMA)
SVSYNC
SHSYNC
SYNC
RGB OUTPUT
RGB/YUV MATRIX
COLOUR DECODING
RGB INPUT1
RGB/ YUV INPUT2
RBG/YUV MATRIX
YUV INTERFACE
CVBS_TER_OUT
7402-B
SEL_TUNER1
7402-A
AP & LATAM
4305
1333
SEL_TUNER2
7401-C
CVBS-SC1_AV1-IN
Y-CVBS-SC2-AV2-IN
SEL-MAIN-R1R2
7401-B
Y-CVBS-FRONT-IN
7401-A
C-SC2_SVHS-IN
C-FRONT-IN
SEL-FRNT-RR
R-SC1-IN_V-IN
G-SC1-IN_Y-IN
B-SC1-IN_U-IN
(AVI)
7402-C
SEL_PIP_CVBS
7501
V-CHIP
SDA
SCL
7403
IO
EXPANDER
SEL-MAIN-R1R2
SEL-FRNT-RR
SEL_TUNER1
SEL_TUNER2
FBLK
N.A.
N.A.
N.A.

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Figure 9-2 Double Window circuitry

9.3.3 IF and Video section

Basically the "IF and video" processing part is quite similar to the circuits used on the main board, except that it has a multi standard PIP processor. The processing in the DW module is performed by the TDA8887H BOCMA IC (in the set by the HIP IC).

One tuner versions
In order to display the external AV sources by the DW panel, a source selection circuit is incorporated on the panel. Three external AV sources are possible. The selection between the sources is performed by IC7401 (HEF4053).

Two tuner versions
The TV uses one RF input to the DWs tuner via a splitter. The tuner on the main board receives RF from the splitter. Due to this configuration, the main board tuner always processes the Main picture while the DW tuner always processes the Sub picture. If the picture between the two tuners needs to be swapped, then the tuners' RF frequencies are swapped.

Signal IF-TER from the tuner is fed to pin 1 and 2, IF circuits of TDA8887H IC7301 via SAW filter 1352. The AGC voltage for the tuner can be adjusted in the SAM tuner menu (2nd AGC).

Source selection

After IF demodulation, the CVBS-PIP-OUT is fed back to TDA888x pin 24 with or without video switching circuit comprises of 7402 (HEF4053). Due to this construction, two independent RF signal pictures can be selectively displayed on the CRTs screen. See table.

Table 9-1 Switching logic for Main and DW Picture

SEL-TUNER1(Pin 6 IC7403)	SEL TUNER2 (Pin 7 IC7403)	Selected CVBS signals
0	0	Main = Tuner 1 DW/PIP = Tuner 2
0	1	Main = Tuner 1 DW/PIP = Tuner 1
1	0	Main = Tuner 2 DW/PIP = Tuner 2
1	1	Main = Tuner 2 DW/PIP = Tuner 1

The source signals are fed directly to video processor IC7301. The IC performs the source selection internally.
The video processor IC7301 decodes the CVBS at pin 24 or pin 29 into YC signals and further process it into YUV signal. Output is at pins 40, 45, and 46.
The PIP-AUDIO signal is fed to pin 47 of the audio demodulator MSP34xx on the SSB.

Note: When S-VHS is inserted from the rear, the AV2 source will be disabled. Likewise, when S-VHS is inserted from the side-AV.

9.3.4 DW/PIP processing

The SAB908x (IC7801) is a multi-standard PIP controller, which can be used in double window or PIP applications. The YUV signals from the video processor IC7301 are fed to pin 79, 81, and 83. The PIP controller will insert the YUV signals from IC7301 with reduced size into the main picture. The main picture YUV signals (50 Hz) are fed to pins 100, 2, and 98, respectively. These signals are used during the DW mode.

Inside IC7801, the conversion to the digital environment is done with ADCs. Processing and storage (1 MB DRAM) of the video data is done entirely in the digital domain. The conversion back to the analogue domain is done by DACs. Internal clocks are generated by PLLs, which lock on to the applied horizontal and vertical syncs from the main and sub pictures. The main picture syncs are applied to pin 70 (V) and pin 94 (H) and the sub picture syncs are applied to pin 72 (V) and pin 87 (H).
For DW mode, the main picture is compressed horizontally by a factor of two and fed directly to the output. After compression, a horizontal expansion of two is possible for the main picture. The sub picture is also compressed horizontally by a factor two, but is stored in memory before it is fed to the outputs.

Post-processed YUV signals are fed to the "fast switching" IC7803 (TDA8601 pins 6, 7, and 8). In normal operation (without DW), the main picture YUV signals (at pins 2, 3 and 4) are bypassed by IC7803, and returned back to the main video processor. When DW mode is active, the compressed YUV signals (main and sub pictures) are used and fed to the main video processor. During the PIP mode, only sub-picture YUV signals are used. The insertion control is made possible by a fast blanking signal from pin 68 of IC7801.

9.3.5 Power supplies

The power supplies used by the DW panel are from the main board 5 V, 8 V, and 33 V (for tuner only). IC7802 LM317T regulates the 5V to +3.3V, +3V, and +3VD. These voltages are mainly used by the DW processor circuitry. The 8V is mainly supplied to the IF + video processing circuitry (IC7301 TDA888x), and to fast switching IC7803.

9.4 Abbreviation list

2DNR	Spatial (2D) Noise Reduction
3DNR	Temporal (3D) Noise Reduction
AARA	Automatic Aspect Ratio Adaptation: algorithm that adapts aspect ratio to remove horizontal black bars; keeping up the original aspect ratio
ACI	Automatic Channel Installation: algorithm that installs TV sets directly from cable network by means of a predefined TXT page
ADC	Analogue to Digital Converter
AFC	Automatic Frequency Control: control signal used to tune to the correct frequency
AGC	Automatic Gain Control: algorithm that controls the video input of the feature-box
AM	Amplitude Modulation
ANR	Automatic Noise Reduction: one of the algorithms of Auto TV
AR	Aspect Ratio: 4 by 3 or 16 by 9
Artistic	See OTC 2.5: main processor
ASF	Auto Screen Fit: algorithm that adapts aspect ratio to remove horizontal black bars but without throwing away video information
ATV	See Auto TV
AUDIO_C	Audio Centre
AUDIO_L	Audio Left
AUDIO_R	Audio Right
AUDIO_SL	Audio Surround Left
AUDIO-SR	Audio surround right
AUDIO_SW	Audio Subwoofer
Auto TV	A hardware and software control system that measures picture content, and adapts image parameters in a dynamic way
BC-PROT	Protection signal to the uP for a too high Beam Current.
BG	System B and G
BLC-INFO	Black Current Info
B-SC1-IN	Blue SCART1 in
B-SC2-IN	Blue SCART2 in
B-TXT	Blue teletext
BOCMA	BiMOS One Chip Mid-end Architecture: integrated video and chroma decoder
CL	Constant Level: audio output to connect with an external amplifier
ComPair	Computer aided rePair
CRT	Cathode Ray Tube or picture tube
CSM	Customer Service Mode
CTI	Colour Transient Improvement: manipulates steepness of chroma transients
CVBS	Composite Video Blanking and Synchronisation
CVBS-TER	CVBS terrestrial
DAC	Digital to Analogue Converter
DBE	Dynamic Bass Enhancement: extra low frequency amplification
DC-filament	Filament supply voltage

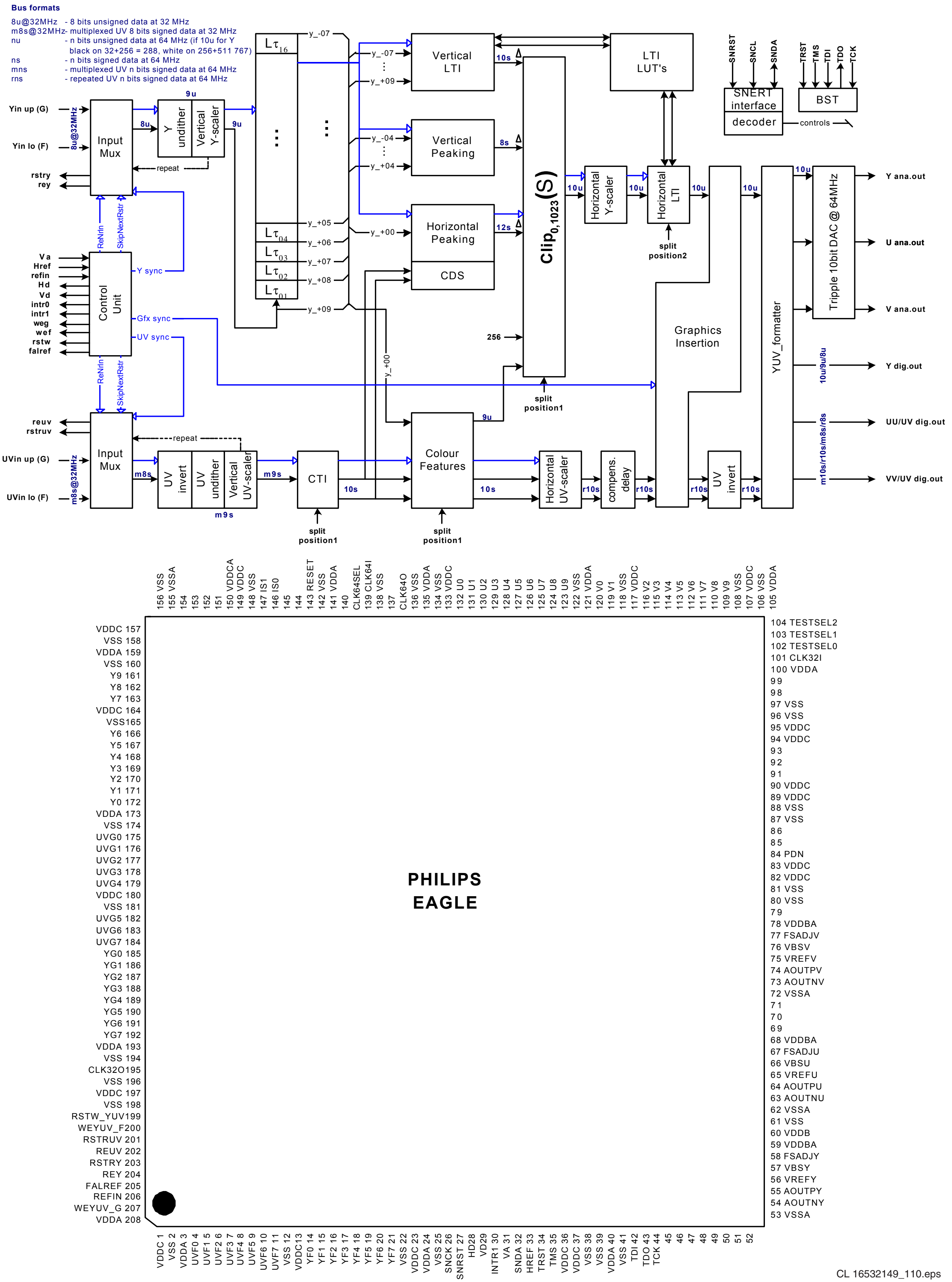
DFU	Direction For Use: description for the end user
DNR	Digital Noise Reduction: noise reduction feature of the box
DPL	Dolby ProLogic
DSP	Digital Signal Processing
DST	Dealer Service Tool: special remote control designed for dealers to enter e.g. service mode
DVD	Digital Versatile Disc
DYN-FASE-COR	Dynamic phase correction, to correct the phase of the H-drive
Eagle	Feature box IC performing peaking, zooming and sub pixel LTI in both horizontal and vertical direction, CTI and other colour features
EHT	Extra High Tension
EHT-INFO	Extra High Tension information, used for contrast reduction, vertical and horizontal amplitude correction, beam current protection, and flash detection.
EPG	Electronic Program Guide: system used by broadcasters to transmit TV guide information (= NexTView)
EW	East West, related to horizontal deflection of the set
EW-DRIVE	The drive signal for the EW-transistor
EXT	External (source), entering the set via SCART or via cinches
FALCONIC	Feature box IC performing Digital Natural Motion, 3DNR, and vertical zoom and vertical peaking
FBL	Fast Blanking: DC signal accompanying RGB signals
FBL-PIP	The fast blanking signal for PIP
FBL-TXT	The fast blanking signal for TXT. It has a higher priority than FBL-PIP
FBSCO	Fixed Beam Current Switch Off, a 140 V dip detection to activate the black switch off circuit
FBX	Feature Box: part of small signal / separate module which contains 100 Hz processing, extra featuring and AutoTV algorithms (FBX6= based on PICNIC, FBX7= based on PICNIC and Eagle)
FDS	Full Dual Screen
FILAMENT	Filament of CRT
FLASH	Flash memory
FM	Field Memory or Frequency Modulation
G-TXT	Green teletext
GND-DRIVE	A separate ground for the line drive towards the line driver
HA50	Horizontal Acquisition 1fH: horizontal sync pulse coming out of the HIP
HD100	Horizontal Drive 2fH: horizontal sync pulse coming out of the feature-box
HD at HOME	A signal from the OTC, to switch the HOP to the Pixel Plus standard (75 Hz frame)
HFB	Horizontal Flyback Pulse: horizontal sync pulse from large signal deflection
HIP	High-end video Input Processor: video and chroma decoder of EM5E
HOP	High-end video Output Processor: video, sync, and geometry controller of
HP	Headphone
Interlaced	Scan mode where two fields are used to form one frame. Each field contains half the number of the total amount of lines. The fields are written in 'pairs', causing line flicker
Last Status	The settings last chosen by the customer, read, and stored in RAM or in the NVM. They are called at start-up of the set to configure it according the customers wishes
LDP	Line Deflection Protection signal, derived from the EW-current and voltage
LED	Light Emitting Diode
LINE DRIVE	Line drive signal (for the Line transistor)
LNA	Low Noise Adapter
LSP	Large signal panel
MSP	Multi-standard Sound Processor: ITT sound decoder of EM5E
MUTE	Mute-Line
NC	Not Connected
NVM	Non Volatile Memory: IC containing TV related data e.g. alignments
O/C	Open Circuit
ON/OFF LED	On/Off control signal for the LED
OSD	On Screen Display
OTC	On screen display Teletext and Control; also named Artistic
P50	Project 50 communication: protocol between TV and peripherals
PCB	Printed Circuit Board
PICNIC	Peripheral Integrated Combined Network IC: main IC for 100 Hz featuring and feature processing
PIP	Picture In Picture
Progressive Scan	Scan mode where all scan lines are displayed in one frame at the same time, creating a double vertical resolution.
PTP	Picture Tube Panel
RAM	Random Access Memory
R-TXT	Red teletext
RC	Remote Control
RC5 / RC6	Signal protocol from the remote control receiver
RESET	Reset signal
RGB-PIP	RGB-input for PIP
RGB-TXT	RGB-input for Teletext and OSD
RGB-VC	RGB-input to the Picture Tube Panel
ROM	Read Only Memory
SAM	Service Alignment Mode
SC	Sandcastle: two-level pulse derived from sync signals
S/C	Short Circuit
SCAVEM	Scan Velocity Modulation
SCL-F	Clock signal on fast I2C bus
SD	Standard Definition
SDA-F	Data signal on fast I2C bus
SIF	Sound Intermediate Frequency
SIMM	80-fold connector between LSP and SSB
SNERT	Synchronous No parity Eight bit Reception and Transmit
SSB	Small Signal Board
STBY	Standby
SW	Subwoofer
TXT	Teletext
TXT-DS	Teletext Dual Screen
TXT-KILL	To kill the TXT picture to insert a PIP. It has a higher priority than FBL-TXT.
uP	Microprocessor
U100	U from Feature Box
V100	V from Feature Box
VA50	Vertical Acquisition 1Fh
VBAT	Main supply for deflection (mostly 141 V)
VD100	Vertical Drive 2fh: vertical sync pulse from deflection
VDPOS	One of the symmetrical drive signals for the DC frame output stage.

VDNEG	One of the symmetrical drive signals for the DC frame output stage.
VDS	Virtual Dolby Surround
VFB	Vertical Flyback Pulse: vertical sync pulse coming from the feature box
VL	Variable Level out: processed audio output towards external amplifier
WYSIWYR	What You See Is What You Record: record selection that follows main picture and sound
X-RAY-PROT	A protection signal for too high X-ray radiation
XTAL	Quartz crystal
Y100	Y from Feature Box
Y-OUT	Luminance-signal to HOP IC
YUV-Feat	The YUV input for the main picture, coming from the Feature box or the HIP

9.5 IC Data Sheets

In this paragraph, the internal block diagrams and pinning are given of ICs that are drawn as a 'black box' in the electrical diagrams (with the exception of 'memory' and 'logic' ICs).

9.5.1 Diagram B3c, T8F24EF (IC7724)


Bus formats
8u@32MHz - 8 bits unsigned data at 32 MHz
m8s@32MHz- multiplexed UV 8 bits signed data at 32 MHz
nu - n bits unsigned data at 64 MHz (if 10u for Y black on 32+256 = 288, white on 256+511 767)
ns - n bits signed data at 64 MHz
mns - multiplexed UV n bits signed data at 64 MHz
rns - repeated UV n bits signed data at 64 MHz
Yin up (G)
Yin lo (F)
8u@32MHz
Input Mux
8u
Y undither
Vertical Y-scaler
9u
repeat
rstry
rey
ReNrln
SkipNextRstr
Va
Href
refin
Hd
Vd
intr0
intr1
weg
wef
rstw
falref
Control Unit
Y sync
Gfx sync
UV sync
reuv
rstruv
UVin up (G)
UVin lo (F)
m8s@32MHz
m8s
UV invert
UV undither
Vertical UV-scaler
m9s
m9s
CTI
split position1
Lτ16
Lτ04
Lτ03
Lτ02
Lτ01
y_-07
y_+09
y_-04
y_+04
y_+05
y_+06
y_+07
y_+08
y_+00
Vertical LTI
Vertical Peaking
Horizontal Peaking
CDS
10s
8s
12s
Δ
Clip0,1023(S)
256
split position1
LTI LUT's
SNRST
SNCL
SNDA
SNERT interface
decoder
TRST
TMS
TDI
TDO
TCK
BST
controls
10u
Horizontal Y-scaler
Horizontal LTI
split position2
Graphics Insertion
YUV_formatter
Tripple 10bit DAC @ 64MHz
Y ana.out
U ana.out
V ana.out
10u/9u/8u
Y dig.out
m10s/r10s/m8s/r8s
UU/UV dig.out
VV/UV dig.out
Colour Features
9u
10s
Horizontal UV-scaler
r10s
compens. delay
UV invert
156 VSS
155 VSSA
154
153
152
151
150 VDDCA
149 VDDC
148 VSS
147 IS1
146 IS0
145
144
143 RESET
142 VSS
141 VDDA
140
CLK64SEL
139 CLK64I
138 VSS
137
CLK64O
136 VSS
135 VDDA
134 VSS
133 VDDC
132 U0
131 U1
130 U2
129 U3
128 U4
127 U5
126 U6
125 U7
124 U8
123 U9
122 VSS
121 VDDA
120 V0
119 V1
118 VSS
117 VDDC
116 V2
115 V3
114 V4
113 V5
112 V6
111 V7
110 V8
109 V9
108 VSS
107 VDDC
106 VSS
105 VDDA
VDDC 157
VSS 158
VDDA 159
VSS 160
Y9 161
Y8 162
Y7 163
VDDC 164
VSS165
Y6 166
Y5 167
Y4 168
Y3 169
Y2 170
Y1 171
Y0 172
VDDA 173
VSS 174
UVG0 175
UVG1 176
UVG2 177
UVG3 178
UVG4 179
VDDC 180
VSS 181
UVG5 182
UVG6 183
UVG7 184
YG0 185
YG1 186
YG2 187
YG3 188
YG4 189
YG5 190
YG6 191
YG7 192
VDDA 193
VSS 194
CLK32O195
VSS 196
VDDC 197
VSS 198
RSTW_YUV199
WEYUV_F200
RSTRUV 201
REUV 202
RSTRY 203
REY 204
FALREF 205
REFIN 206
WEYUV_G 207
VDDA 208
PHILIPS
EAGLE
104 TESTSEL2
103 TESTSEL1
102 TESTSEL0
101 CLK32I
100 VDDA
99
98
97 VSS
96 VSS
95 VDDC
94 VDDC
93
92
91
90 VDDC
89 VDDC
88 VSS
87 VSS
86
85
84 PDN
83 VDDC
82 VDDC
81 VSS
80 VSS
79
78 VDDBA
77 FSADJV
76 VBSV
75 VREFV
74 AOUTPV
73 AOUTNV
72 VSSA
71
70
69
68 VDDBA
67 FSADJU
66 VBSU
65 VREFU
64 AOUTPU
63 AOUTNU
62 VSSA
61 VSS
60 VDDB
59 VDDBA
58 FSADJY
57 VBSY
56 VREFY
55 AOUTPY
54 AOUTNY
53 VSSA
VDDC 1
VSS 2
VDDA 3
UVF0 4
UVF1 5
UVF2 6
UVF3 7
UVF4 8
UVF5 9
UVF6 10
UVF7 11
VSS 12
VDDC13
YF0 14
YF1 15
YF2 16
YF3 17
YF4 18
YF5 19
YF6 20
YF7 21
VSS 22
VDDC 23
VDDA 24
VSS 25
SNCK 26
SNRST 27
HD28
VD29
INTR1 30
VA 31
SNDA 32
HREF 33
TRST 34
TMS 35
VDDC 36
VDDC 37
VSS 38
VSS 39
VDDA 40
VSS 41
TDI 42
TDO 43
TCK 44
45
46
47
48
49
50
51
52

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201201

Figure 9-3 Internal Block Diagram and Pin Layout.

10. Spare Parts List

Large Signal Panel [A]

Various

0011	3104 308 78231	Transistor cooling clip
0020	4822 492 70789	Transistor clamp
0030	3104 304 23001	LSP chassisframe
0037	3104 304 24131	LOT bracket
0050	4822 466 93461	Insulating plate 20 X 25
0065	3104 304 22031	LOT spacer
0066	3104 304 23051	Conn. support EMGS
0067	3104 304 23061	Conn. part EMGS
0072	3104 304 24141	SSB bracket bottom
0080	4822 492 70789	Transistor clamp
0085	4822 701 13088	Transistor clamp
0086	4822 256 91879	Plastic holder
0090	4822 256 91879	Plastic holder
0091	4822 701 13088	Transistor clamp
0092	4822 256 91879	Plastic holder
0124	3104 300 40441	PT screw K40 X 30
0125	3104 304 90361	Insulating plate
0320	4822 255 41371	Transistor clamp
0341	4822 492 63524	Transistor clamp
0342	4822 492 63524	Transistor clamp
0395	4822 492 70789	Transistor clamp
0396	4822 492 70789	Transistor clamp
0505	4822 492 62076	Transistor clamp
1158	3104 328 13391	DAF + DC-shift assy
1158	3104 328 19401	DAF+DC-Shift assy 36”
1200▲	3139 147 18141	Tuner UV1316T/A I X-3
1200	3139 147 19341	Tuner UV1318S/A I-3
1205	2422 025 17242	Connector SIMM 80p f
1417	4822 265 20723	Connector 2p m
1424	2422 025 11244	Connector 7p m
1491	4822 267 10973	Connector 1P m
1492	4822 267 10735	Connector 3p m
1498	2422 025 04849	Connector 2p m
1499	2422 025 04849	Connector 2p m
1501▲	4822 070 35002	218005.(5A)
1502	4822 267 10774	2P male red
1503▲	4822 070 12502	21702.5(2.5A)
1505	2422 025 16374	Connector 2p m
1511	4822 265 11253	Fuse holder 2p
1512	4822 265 11253	Fuse holder 2p
1520	3104 301 24181	Spring for Bracket
1521	3104 301 24181	Spring for Bracket
1522	4822 255 41371	Transistor clamp
1550▲	2422 132 07411	Relay 1P 5V 5A
1590	4822 252 60151	Sparkgap DSP-501N-A21F
1601▲	2422 086 10919	Fuse 65V 125mA
1620	4822 267 10735	Connector 3p m
1625	2422 025 16382	Connector 3p m
1693	4822 267 10676	Connector 1P
1735	4822 267 10565	Connector 4p
1737	2422 025 16382	Connector 3p m
1738	2422 025 16383	Connector 3p m
1901	4822 267 10771	Socket 2 x SCART
1902	4822 267 10982	Connector 2p
1933	4822 267 10565	Connector 4p
1935	4822 267 10734	Connector 5p m
1936	2422 025 12485	Connector 11p m
1937	4822 267 10557	Connector 10p
1940	2422 025 12485	Connector 11p m
1943	4822 267 10748	Connector 3p m
1945	4822 267 10735	Connector 3p m
1946	4822 265 41391	Connector 9p m
1948	2422 025 10768	Connector 3p m
1952	4822 267 10735	Connector 3p m
1953	4822 267 10735	Connector 3p m
1955	4822 267 10735	Connector 3p m
8000	3104 311 03272	Eht cable 640 mm
8000	3104 311 03721	Eht cable 820 mm
8192	3104 301 08351	Cable phono-phono 120mm
8193▲	4822 320 20216	Focus cable 364 mm
8194▲	4822 320 20189	Cable HT-focus 44cm Rd
8400	2422 025 16691	3P male
8417	3104 311 04561	Cable 2P3/400/2P3
8424	3104 311 02991	Cable 7P/560/7P Wh
8492	3104 311 05291	Cable 3P/400/3P
8498	3104 311 04531	Cable 2P/400/2P
8625	3104 311 03101	Cable 3P/560/3P Bk
8625	3104 311 03331	Cable 2P/560/3P
8625	3104 311 04741	Cable 3P/180/3P
8693	3104 311 03791	Wire 1P/480/4P
8737	3104 311 04682	Cable 2P3/680/2XPOSI
8933	3104 311 05091	Cable tree 09572 + ferrite
8936	3104 311 05271	Cable 11P/820/11P UL
8937	3104 301 09841	Cable 10P/340/10P Wh
8940	3104 311 04651	Cable 11P/140/11P
8940	3104 311 04761	Cable 11P/400/11P
8940	3104 311 05131	Cable 11P/480/11P
8948	3104 311 05021	Cable 3P/220/3P
8952	3104 311 05291	Cable 3P/400/3P
8955	3104 311 01211	Cable 3P/140/3P Wh UL

⊣⊢

2100	2252 811 95021	1nF 20% 250V
2100	4822 126 13841	1nF 20% 250V
2101	4822 121 51598	2.2nF 5% 400V
2102	4822 124 40248	10µF 20% 63V
2103	2020 552 94427	100pF 5% 50v 0603
2104	4822 123 14025	2200µF 20% 16V
2105	2020 552 94427	100pF 5% 50v 0603
2106	4822 126 13751	47nF 10% 63V
2107	4822 121 43855	3.3nF 5% 400V
2108	4822 121 70162	10nF 5% 400V
2109	4822 126 14472	1µF 10% 10V 0805
2110	4822 126 14472	1µF 10% 10V 0805
2111	4822 121 43526	47nF 5% 250V
2112	5322 126 11583	10nF 10% 50V 0603
2114	2222 338 23104	100nF 20% 275V
2114	4822 121 10711	100nF 20% 275V
2115	4822 124 40764	22µF 100 V
2116	4822 126 13682	100pF 5% 1kV
2118	4822 124 80061	1000µF 20% 25V
2119	4822 123 14025	2200µF 20% 16V
2120	4822 126 11524	1.5 nF 10% 1KV
2126	4822 123 14025	2200µF 20% 16V
2130	5322 126 11583	10nF 10% 50V 0603
2131	4822 126 13881	470pF 5% 50V
2140	4822 124 40248	10µF 20% 63V
2141	4822 124 40248	10µF 20% 63V
2144	4822 126 14472	1µF 10% 10V 0805
2145	4822 126 13881	470pF 5% 50V
2147	3198 017 31530	15nF 50V 0603
2148	4822 126 10206	2.2nF 10% 500V
2149	4822 126 14472	1µF 10% 10V 0805
2150	5322 126 11583	10nF 10% 50V 0603
2152	4822 121 70162	10nF 5% 400V
2154	4822 126 14549	33nF 16V 0603
2200	4822 124 40248	10µF 20% 63V
2201	4822 126 13879	220nF 20% 16V
2202	4822 126 13473	220nF 80-20% 50V
2203	4822 124 80195	470µF 20% 10V
2400	4822 124 11575	47µF 20% 160V
2401	4822 121 42077	6.8nF 10% 400V
2402	2020 012 93596	22µF 20% 250V
2402	2020 012 93771	33µF 20% 250V
2402	4822 124 12373	47µF 20% 250V
2403	2238 916 15641	22nF 10% 25V 0603
2403	4822 126 14494	22nF 10% 25V 0603
2404	2238 916 15641	22nF 10% 25V 0603
2404	4822 126 14494	22nF 10% 25V 0603
2412	3198 024 44730	47nF 50V 0603
2413	4822 124 12255	10µF 20% 50V
2414	3198 024 44730	47nF 50V 0603
2415	4822 126 13883	220pF 5% 50V
2417	4822 126 14076	220nF 25V. 20%
2419	4822 126 14237	470pF 10% R 2kV
2420	4822 121 70581	1.5nF 5% 2kV
2420	4822 121 70584	1,8nF 5% 2KV
2420	4822 121 70595	1.2nF 5% 2kV
2421	2022 333 00091	680nF 10% 250V
2421	2038 301 00312	1.2µF 5% 250V
2425	4822 121 10526	9.1nF 5% 2kV
2425	4822 121 70435	10nF 5% 2kV
2426	2222 375 90345	20nF 5% 630V
2426	4822 121 10653	22nF 5% 630V
2426	4822 121 10658	24nF 5% 630V
2430	4822 126 10206	2.2nF 10% 500V
2431	4822 126 10206	2.2nF 10% 500V
2433	2022 333 00163	360nF 5% 250V
2433	2222 479 90022	430nF 5% 250V
2433	4822 121 10518	390nF 5% 250V
2433	4822 121 42634	560nF 5% 250V
2440	2020 552 96448	1µF 10% 16V
2441	5322 122 32654	22nF 10% 63V
2442	5322 122 31866	6.8nF 10% 63V
2443	9965 000 09661	470pF 50V 10%
2445	5322 122 32654	22nF 10% 63V
2448	5322 122 32268	470pF 5% 63V
2450	5322 121 42578	100nF 5% 250V
2451	2020 012 93757	1000µF 20% 10V
2454	3198 017 31530	15nF 50V 0603
2455	5322 126 11578	1nF 10% 50V 0603
2457	2020 552 96699	15nF 5% 25V
2457	2020 552 96804	15nF 10% 50V 0805
2458	4822 126 14241	330pF 50V 0603
2460	4822 124 81144	1000µF 16V
2461	4822 122 31169	1.5nF 10% 500V
2462	4822 124 80061	1000µF 20% 25V
2463	4822 122 31177	470pF 10% 500V
2464	4822 124 80061	1000µF 20% 25V
2465	4822 122 31177	470pF 10% 500V
2466	2238 586 59812	100nF 20-80% 50V 0603
2468	4822 122 31177	470pF 10% 500V
2469	4822 126 13599	3.3nF 10% 500V
2480	5322 126 11582	6.8nF 10% 63V
2482	3198 017 34730	47nF 16V 0603
2483	4822 126 14238	2.2nF 50V 0603
2483	5322 126 11579	3.3nF 10% 63V
2490	2020 021 91773	100µF 20% 10V
2491	4822 124 81151	22µF 50V
2492	4822 124 23432	100µF 20% 10V
2493	5322 126 11579	3.3nF 10% 63V
2494	2238 780 15654	220nF 10% 16V
2495	2238 780 15654	220nF 10% 16V
2497	4822 126 12105	33nF 5% 50V
2499	5322 126 11579	3.3nF 10% 63V
2501	4822 126 14053	1nF 10% 2kV
2503	5322 121 42489	33nF 5% 250V
2504	2238 916 15641	22nF 10% 25V 0603
2504	4822 126 14494	22nF 10% 25V 0603
2505	2020 554 90173	2.2nF 20% 250V
2505	2252 811 95018	2.2nF 20% 250V
2506	5322 121 42386	100nF 5% 63V
2507	2222 338 22474	470nF 20% 275V
2507	4822 126 13589	470nF 275V
2508	4822 124 11913	22nF 20% 275V
2509	4822 124 11913	22nF 20% 275V
2510	4822 126 14053	1nF 10% 2kV
2511	4822 124 12417	2200µF 20% 25V
2512	4822 124 12417	2200µF 20% 25V
2513	4822 126 13881	470pF 5% 50V
2514	4822 126 14238	2.2nF 50V 0603
2515	4822 124 80096	47µF 200V
2516	2020 024 90743	220µF 20% 400V
2516	4822 124 12415	220µF 20% 400V
2517	4822 121 70162	10nF 5% 400V
2518	4822 122 31211	100pF 10% 500V
2519	4822 126 10206	2.2nF 10% 500V
2520	2222 338 23104	100nF 20% 275V
2520	4822 121 10711	100nF 20% 275V
2522	4822 126 10206	2.2nF 10% 500V
2525	4822 126 14247	1.5nF 50V 0603
2528	4822 126 14472	1µF 10% 10V 0805
2530	4822 126 14472	1µF 10% 10V 0805
2531	4822 122 31177	470pF 10% 500V
2535	4822 126 13193	4.7nF 10% 63V
2537	4822 124 11913	22nF 20% 275V
2538	4822 122 33177	10nF 20% 50V
2540	4822 124 40248	10µF 20% 63V
2541	4822 122 31211	100pF 10% 500V
2542	4822 124 80061	1000µF 20% 25V
2543	4822 124 80061	1000µF 20% 25V
2544	4822 126 14238	2.2nF 50V 0603
2601	2238 586 59812	100nF 20-80% 50V 0603
2603	4822 126 13883	220pF 5% 50V
2604	4822 126 13473	220nF 80-20% 50V
2605	4822 126 13883	220pF 5% 50V
2620	4822 126 13473	220nF 80-20% 50V
2621	2238 586 59812	100nF 20-80% 50V 0603
2622	4822 124 40255	100µF 20% 63V
2623	4822 126 14238	2.2nF 50V 0603
2624	4822 121 51319	1µF 10% 63V
2625	4822 121 51319	1µF 10% 63V
2627	5322 124 40641	10µF 20% 100V
2628	4822 124 40255	100µF 20% 63V
2630	4822 126 14491	2.2µF -20+80% 10V 0805
2631	4822 126 14491	2.2µF -20+80% 10V 0805
2633	5322 126 11579	3.3nF 10% 63V
2635	2238 586 59812	100nF 20-80% 50V 0603
2642	4822 124 40255	100µF 20% 63V
2653	2238 586 15628	2.7nF 10% 50V 0603
2653	5322 126 11579	3.3nF 10% 63V
2656	2238 916 15641	22nF 10% 25V 0603
2656	4822 126 14494	22nF 10% 25V 0603
2657	2238 916 15641	22nF 10% 25V 0603
2657	4822 126 14494	22nF 10% 25V 0603
2659	2238 916 15641	22nF 10% 25V 0603
2659	4822 126 14494	22nF 10% 25V 0603
2660	5322 126 11578	1nF 10% 50V 0603
2702	3198 016 31020	1nF 25V 0603
2704	3198 016 31020	1nF 25V 0603
2705	4822 126 13482	470nF 80/20% 16V
2706	4822 126 14585	100nF 10% 50V

2707	4822 126 14076	220nF 25V. 20%
2708	4822 126 14076	220nF 25V. 20%
2709	4822 126 13881	470pF 5% 50V
2710	4822 126 13881	470pF 5% 50V
2711	3198 016 31020	1nF 25V 0603
2712	2020 552 96683	220nF 10% 50V
2713	4822 126 14076	220nF 25V. 20%
2714	4822 126 14549	33nF 16V 0603
2715	3198 016 31020	1nF 25V 0603
2716	4822 126 14241	330pF 50V 0603
2717	5322 121 42498	680nF 5% 63V
2718	2222 867 15339	33pF 5% 50V 0603
2719	3198 016 31020	1nF 25V 0603
2720	4822 126 14076	220nF 25V. 20%
2721	4822 126 13881	470pF 5% 50V
2722	4822 126 13881	470pF 5% 50V
2723	3198 016 31020	1nF 25V 0603
2724	2020 552 96683	220nF 10% 50V
2725	3198 016 31020	1nF 25V 0603
2726	4822 126 14549	33nF 16V 0603
2727	3198 016 31020	1nF 25V 0603
2728	4822 126 14241	330pF 50V 0603
2729	5322 121 42498	680nF 5% 63V
2740	4822 121 51252	470nF 5% 63V
2741	2222 867 15339	33pF 5% 50V 0603
2742	4822 126 14241	330pF 50V 0603
2743	4822 126 12105	33nF 5% 50V
2744	4822 126 12105	33nF 5% 50V
2745	4822 126 14241	330pF 50V 0603
2746	3198 016 31020	1nF 25V 0603
2747	4822 126 13881	470pF 5% 50V
2748	2020 552 96683	220nF 10% 50V
2749	2020 552 95447	2.2µF 20% 16V
2750	2238 586 59812	100nF 20-80% 50V 0603
2751	4822 126 14585	100nF 10% 50V
2753	4822 126 14076	220nF 25V. 20%
2754	2020 552 95447	2.2µF 20% 16V
2755	3198 016 31020	1nF 25V 0603
2756	4822 126 13881	470pF 5% 50V
2757	2020 552 96683	220nF 10% 50V
2758	5322 121 42498	680nF 5% 63V
2759	5322 126 10511	1nF 5% 50V
2760	5322 122 32268	470pF 5% 63V
2761	4822 126 13881	470pF 5% 50V
2762	4822 126 14076	220nF 25V. 20%
2763	4822 126 14076	220nF 25V. 20%
2777	2020 552 96684	470nF 10% 25V
2778	4822 124 41751	47µF 20% 50V
2779	2020 552 96684	470nF 10% 25V
2780	2020 552 96684	470nF 10% 25V
2781	2020 552 96684	470nF 10% 25V
2782	2020 552 96684	470nF 10% 25V
2783	2020 552 96684	470nF 10% 25V
2784	2020 552 96684	470nF 10% 25V
2785	2020 552 96684	470nF 10% 25V
2786	2238 916 15641	22nF 10% 25V 0603
2786	4822 126 14494	22nF 10% 25V 0603
2787	2238 916 15641	22nF 10% 25V 0603
2791	2020 552 96684	470nF 10% 25V
2792	2020 552 96684	470nF 10% 25V
2914	4822 124 40248	10µF 20% 63V
2915	4822 124 12255	10µF 20% 50V
2917	4822 126 14585	100nF 10% 50V
2929	4822 126 13879	220nF 20% 16V
2930	2020 552 93683	1.2nF 10% 50V 0603
2931	2020 552 93683	1.2nF 10% 50V 0603
2940	4822 124 23432	100µF 20% 10V
2941	4822 126 14585	100nF 10% 50V
2942	4822 126 14585	100nF 10% 50V
2943	4822 126 14585	100nF 10% 50V
2944	4822 126 13879	220nF 20% 16V
2945	4822 126 14491	2.2µF -20+80% 10V 0805
2946	4822 126 14491	2.2µF -20+80% 10V 0805
2947	2020 021 90141	4.7µF 20% 50V
2948	4822 124 23432	100µF 20% 10V
2949	4822 124 23432	100µF 20% 10V
2950	5322 126 11583	10nF 10% 50V 0603
2951	5322 126 11583	10nF 10% 50V 0603
2952	5322 126 11578	1nF 10% 50V 0603
2985	4822 126 14315	390pF 5% 50V 0603
2987	5322 122 31863	330pF 5% 63V
2989	5322 122 31863	330pF 5% 63V
2990	5322 122 31863	330pF 5% 63V
2991	5322 122 32531	100pF 5% 50V
2992	5322 122 31863	330pF 5% 63V
2993	5322 122 32531	100pF 5% 50V
2994	5322 122 31863	330pF 5% 63V
2995	5322 122 31863	330pF 5% 63V
2996	5322 122 31863	330pF 5% 63V
2997	5322 122 31863	330pF 5% 63V
2998	5322 122 32531	100pF 5% 50V
2999	5322 122 32531	100pF 5% 50V

-ww-

3101	4822 053 20106	10M 5% 0,25W
3102	4822 050 21002	1kΩ 1% 0.6W
3103	4822 050 21002	1kΩ 1% 0.6W
3104	4822 116 52195	47Ω 5% 0.5W
3105	4822 050 11002	1k 1% 0.4W
3106	4822 116 52249	1k8 5% 0.5W
3106	4822 116 52256	2k2 5% 0.5W
3107	4822 116 52249	1k8 5% 0.5W
3107	4822 116 52256	2k2 5% 0.5W
3108	2122 101 02083	1.5Ω 5% 0,5W
3108	4822 116 80676	1Ω5 5% 0.5W
3111	4822 053 10152	1k5 5% 1W
3113	4822 116 52186	22Ω 5% 0.5W
3114	4822 116 83872	220Ω 5% 0.5W
3115	4822 116 52257	22kΩ 5% 0.5W
3116	4822 116 52251	18kΩ 5% 0.5W
3116	4822 116 52257	22kΩ 5% 0.5W
3117	4822 116 52195	47Ω 5% 0.5W
3118	2122 101 02083	1.5Ω 5% 0,5W
3118	4822 116 80676	1Ω5 5% 0.5W
3120	4822 051 20109	10Ω 5% 0.1W
3123	4822 051 30109	10Ω 5% 0.062W
3124	4822 116 52199	68Ω 5% 0.5W
3125	4822 116 52182	15Ω 5% 0.5W
3126	4822 050 21003	10kΩ 1% 0.6W
3127	4822 116 52289	5k6 5% 0.5W
3130	4822 051 30479	47Ω 5% 0.062W
3131	4822 051 30471	470Ω 5% 0.062W
3132	4822 051 20479	47Ω 5% 0.1W
3133	4822 117 10834	47kΩ 1% 0.1W
3134	4822 051 30102	1kΩ 5% 0.062W
3135	4822 051 30101	100Ω 5% 0.062W
3136	4822 051 30109	10Ω 5% 0.062W
3137	4822 050 24702	4k7 1% 0.6W
3140	4822 051 20223	22kΩ 5% 0.1W
3140	4822 117 10837	100kΩ 1% 0.1W
3141	4822 116 52263	2k7 5% 0.5W
3142	4822 051 30332	3.3kΩ 5% 0.062W
3143	4822 051 30101	100Ω 5% 0.062W
3144	4822 116 83883	470Ω 5% 0.5W
3150	4822 117 11373	100Ω 1% 0805
3151	4822 051 30109	10Ω 5% 0.062W
3152	4822 051 30102	1kΩ 5% 0.062W
3153	4822 051 20472	4.7kΩ 5% 0.1W
3155	4822 051 30101	100Ω 5% 0.062W
3156	5322 117 13017	100Ω 1% 0.063W 0603
3157	4822 051 30103	10kΩ 5% 0.062W
3158	5322 117 13021	47Ω 1% 0.063W 0603
3159	4822 051 30103	10kΩ 5% 0.062W
3160	4822 051 30102	1kΩ 5% 0.062W
3161	4822 052 10221	220Ω 5% 0.33W
3162	4822 116 83883	470Ω 5% 0.5W
3164	4822 117 13632	100kΩ 1% 0603 0.62W
3165	4822 051 30331	330Ω 5% 0.062W
3168	4822 051 20472	4.7kΩ 5% 0.1W
3170	4822 116 52291	56kΩ 5% 0.5W
3200	4822 117 11373	100Ω 1% 0805
3201	4822 117 11373	100Ω 1% 0805
3210	4822 051 30102	1kΩ 5% 0.062W
3211	4822 051 30222	2.2kΩ 5% 0.062W
3212	4822 051 30101	100Ω 5% 0.062W
3213	4822 116 52182	15Ω 5% 0.5W
3250	4822 051 20223	22kΩ 5% 0.1W
3261	4822 117 11373	100Ω 1% 0805
3262	4822 117 11373	100Ω 1% 0805
3400	4822 052 11108	1Ω 5% 0.5W
3401	2120 105 93473	27Ω 5% 3W
3402	4822 053 10121	120Ω 5% 1W
3403	4822 116 52175	100Ω 5% 0.5W
3404	4822 051 30471	470Ω 5% 0.062W
3406	4822 117 11373	100Ω 1% 0805
3407	4822 051 30103	10kΩ 5% 0.062W
3409	4822 050 11002	1k 1% 0.4W
3410	4822 051 20479	47Ω 5% 0.1W
3411	2122 101 02111	39Ω 5% 0,5W
3411	4822 116 52193	39Ω 5% 0.5W
3412	4822 117 11817	1.2kΩ 1% 1/16W
3414	4822 051 30331	330Ω 5% 0.062W
3415	3198 012 31590	15Ω 5% 3W
3417	4822 116 52176	10Ω 5% 0.5W
3418	2312 915 16803	68K 1% 0,5W
3418	4822 050 25603	56k 1% 0.6W
3419	4822 051 30474	470kΩ 5% 0.062W
3420	4822 051 30332	3.3kΩ 5% 0.062W
3421	4822 051 30474	470kΩ 5% 0.062W
3422	4822 051 30332	3.3kΩ 5% 0.062W
3423	4822 053 10688	6Ω8 5% 1W
3425	4822 116 52176	10Ω 5% 0.5W
3426	4822 116 52176	10Ω 5% 0.5W
3427	4822 051 30105	1MΩ 5% 0.062W

3427	4822 051 30334	330kΩ 5% 0.062W
3427	4822 051 30684	680kΩ 5% 0.062W
3429	3198 021 32250	2M2 5% 0603
3429	4822 051 30105	1MΩ 5% 0.062W
3431	2306 207 03151	150Ω 5% 0.5W
3437	4822 051 20109	10Ω 5% 0.1W
3440	4822 051 30102	1kΩ 5% 0.062W
3441	4822 051 30223	22kΩ 5% 0.062W
3442	4822 051 30474	470kΩ 5% 0.062W
3443	4822 051 30684	680kΩ 5% 0.062W
3444	4822 051 20108	1Ω 5% 0.1W
3447	4822 117 11373	100Ω 1% 0805
3449	4822 052 10101	100Ω 5% 0.33W
3450	4822 050 21003	10kΩ 1% 0.6W
3450	4822 116 52238	12kΩ 5% 0.5W
3451	4822 050 21003	10kΩ 1% 0.6W
3454	4822 051 20108	1Ω 5% 0.1W
3455	4822 117 12902	8.2kΩ 1% 0.063W 0603
3456	4822 117 12903	1.8kΩ 1% 0.063W 0603
3457	4822 051 30152	1.5kΩ 5% 0.062W
3458	4822 051 30471	470Ω 5% 0.062W
3459	4822 051 30272	2.7kΩ 5% 0.062W
3460	4822 052 10108	1Ω 5% 0.33W
3461	4822 052 10108	1Ω 5% 0.33W
3462	4822 052 11108	1Ω 5% 0.5W
3463	4822 052 11108	1Ω 5% 0.5W
3464	4822 052 11108	1Ω 5% 0.5W
3465	4822 052 11108	1Ω 5% 0.5W
3466	4822 051 30472	4.7kΩ 5% 0.062W
3467	4822 117 13632	100kΩ 1% 0603 0.62W
3472	4822 051 30393	39kΩ 5% 0.062W
3474	4822 051 30563	56kΩ 5% 0.062W
3475	4822 051 30472	4.7kΩ 5% 0.062W
3476	4822 116 83874	220k 5% 0.5W
3478	4822 116 52175	100Ω 5% 0.5W
3479	4822 052 10478	4Ω7 5% 0.33W
3480	4822 052 10478	4Ω7 5% 0.33W
3480	4822 052 10688	6Ω8 5% 0.33W
3481	2322 750 61001	100Ω 5% 1206
3482	4822 051 30221	220Ω 5% 0.062W
3483	4822 117 12903	1.8kΩ 1% 0.063W 0603
3485	4822 051 30471	470Ω 5% 0.062W
3486	2120 108 94004	7k5 1% 0603
3486	2322 704 67502	7.5K 1% 0,5W
3487	4822 117 12902	8.2kΩ 1% 0.063W 0603
3487	5322 117 13056	8.2K 1% 0.063W 0603
3488	4822 050 21005	1MΩ 1% 0.6W
3488	4822 050 26804	680k 1% 0.6W
3489	4822 051 30103	10kΩ 5% 0.062W
3490	4822 051 30332	3.3kΩ 5% 0.062W
3491	4822 117 12925	47kΩ 1% 0.063W 0603
3492	4822 116 52175	100Ω 5% 0.5W
3493	4822 050 21504	150kΩ 1% 0.6W
3496	4822 051 30272	2.7kΩ 5% 0.062W
3497	4822 051 30333	33kΩ 5% 0.062W
3501	4822 116 83872	220Ω 5% 0.5W
3504	4822 051 30222	2.2kΩ 5% 0.062W
3505	4822 116 52257	22kΩ 5% 0.5W
3506	4822 051 30562	5.6kΩ 5% 0.063W 0603
3507	4822 050 21604	160kΩ 1% 0.6W
3508	4822 116 52182	15Ω 5% 0.5W
3509⚠	2122 550 00158	VDR 1mA 612V
3510	4822 117 11454	820Ω 1% 0,1W
3511	4822 053 11222	2k2 5% 2W
3512	4822 117 12891	220kΩ 1% 0.063W 0603
3513	4822 116 52272	330k 5% 0.5W
3514	2322 193 53397	0.39Ω 5% 0.6W
3515	2322 193 53397	0.39Ω 5% 0.6W
3517	4822 117 10834	47kΩ 1% 0.1W
3518	4822 116 52245	150kΩ 5% 0.5W
3519	4822 051 30102	1kΩ 5% 0.062W
3520	4822 053 11333	33k 5% 2W
3521	4822 053 21475	4M7 5% 0,5W
3522	4822 117 11507	6.8kΩ 1% 0.1W
3523	4822 051 20105	1MΩ 5% 0.1W
3524	4822 051 30333	33kΩ 5% 0.062W
3525	4822 051 30479	47Ω 5% 0.062W
3526	4822 116 83303	0.1Ω 2W
3527	4822 117 11951	2kΩ 1% 0.1W
3528	4822 051 30103	10kΩ 5% 0.062W
3529	4822 051 30472	4.7kΩ 5% 0.062W
3530	4822 051 30102	1kΩ 5% 0.062W
3531	4822 117 11507	6.8kΩ 1% 0.1W
3532	4822 117 12925	47kΩ 1% 0.063W 0603
3533	4822 116 52182	15Ω 5% 0.5W
3534	4822 117 12925	47kΩ 1% 0.063W 0603
3535	4822 051 30479	47Ω 5% 0.062W
3536	4822 052 10102	1k 5% 0.33W
3537	4822 116 52182	15Ω 5% 0.5W
3540	4822 050 23303	33k 1% 0.6W
3543	4822 050 24708	4Ω7 1% 0.6W
3547	4822 051 30008	Jumper 0603
3549	5322 117 13039	220K 1% 0.063W 0603
3550⚠	2122 663 00018	PTC 4.7Ω 20%

3550⚠	2322 662 96858	PTC 276V 4.5Ω 20%
3551	4822 116 83872	220Ω 5% 0.5W
3552	4822 051 30222	2.2kΩ 5% 0.062W
3553	4822 051 30103	10kΩ 5% 0.062W
3610	4822 051 30223	22kΩ 5% 0.062W
3611	4822 051 30222	2.2kΩ 5% 0.062W
3620	4822 050 21808	1.8Ω 1% 0,6W
3620	4822 116 80176	1Ω 5% 0.5W
3620	4822 116 80676	1Ω5 5% 0.5W
3621	4822 116 80176	1Ω 5% 0.5W
3621	4822 116 80676	1Ω5 5% 0.5W
3622	2122 101 02083	1.5Ω 5% 0,5W
3622	4822 116 80176	1Ω 5% 0.5W
3622	4822 116 81039	1.8Ω 5% 0.5W
3623	4822 116 52251	18kΩ 5% 0.5W
3623	4822 116 52257	22kΩ 5% 0.5W
3624	4822 052 10158	1Ω5 5% 0.33W
3625	4822 050 15609	56Ω 1% 0.4W
3625	4822 053 10121	120Ω 5% 1W
3625	4822 116 52219	330Ω 5% 0.5W
3625	4822 116 83872	220Ω 5% 0.5W
3626	4822 050 15609	56Ω 1% 0.4W
3626	4822 116 52199	68Ω 5% 0.5W
3626	4822 116 52219	330Ω 5% 0.5W
3626	4822 116 80176	1Ω 5% 0.5W
3626	4822 116 83872	220Ω 5% 0.5W
3627	4822 051 20223	22kΩ 5% 0.1W
3630	4822 051 30333	33kΩ 5% 0.062W
3631	4822 051 30222	2.2kΩ 5% 0.062W
3632	4822 051 30393	39kΩ 5% 0.062W
3633	4822 051 30563	56kΩ 5% 0.062W
3634	4822 116 83882	39k 5% 0.5W
3635	4822 116 52219	330Ω 5% 0.5W
3636	4822 051 30223	22kΩ 5% 0.062W
3637	4822 051 30103	10kΩ 5% 0.062W
3638	4822 051 30474	470kΩ 5% 0.062W
3639	4822 051 30563	56kΩ 5% 0.062W
3640	4822 051 30222	2.2kΩ 5% 0.062W
3641	4822 116 83883	470Ω 5% 0.5W
3642	4822 101 11193	47k 30% 0.1W
3643	4822 051 30334	330kΩ 5% 0.062W
3644	4822 051 30221	220Ω 5% 0.062W
3645	4822 116 52245	150kΩ 5% 0.5W
3646	4822 117 12925	47kΩ 1% 0.063W 0603
3647	4822 051 20228	2.2Ω 5% 0.1W
3649	4822 051 30103	10kΩ 5% 0.062W
3653	4822 051 20223	22kΩ 5% 0.1W
3654	4822 051 30472	4.7kΩ 5% 0.062W
3655	4822 051 30123	12kΩ 5% 0.062W
3656	4822 117 11817	1.2kΩ 1% 1/16W
3657	4822 051 30223	22kΩ 5% 0.062W
3658	4822 051 30223	22kΩ 5% 0.062W
3659	4822 051 30222	2.2kΩ 5% 0.062W
3660	4822 051 30562	5.6kΩ 5% 0.063W 0603
3661	4822 116 52206	120Ω 5% 0.5W
3661	4822 116 52219	330Ω 5% 0.5W
3661	4822 116 83883	470Ω 5% 0.5W
3662	4822 051 30152	1.5kΩ 5% 0.062W
3665	4822 051 30479	47Ω 5% 0.062W
3681	4822 116 52207	1k2 5% 0.5W
3682	4822 117 13632	100kΩ 1% 0603 0.62W
3683	4822 051 30103	10kΩ 5% 0.062W
3684	4822 051 30682	6.8kΩ 5% 0.062W
3685	4822 051 30273	27kΩ 5% 0.062W
3686	4822 051 30563	56kΩ 5% 0.062W
3687	4822 116 52207	1k2 5% 0.5W
3688	4822 051 20684	680kΩ 5% 0.1W
3689	4822 050 11002	1k 1% 0.4W
3690	4822 051 30109	10Ω 5% 0.062W
3701	4822 051 30103	10kΩ 5% 0.062W
3702	4822 051 30682	6.8kΩ 5% 0.062W
3703	4822 051 30333	33kΩ 5% 0.062W
3703	4822 051 30472	4.7kΩ 5% 0.062W
3704	4822 117 10833	10kΩ 1% 0.1W
3705	4822 051 20828	8.2Ω 5% 0.1W
3706	2322 704 65102	5.1kΩ 1% 0603
3707	4822 051 30683	68kΩ 5% 0.062W
3708	4822 051 30563	56kΩ 5% 0.062W
3709	4822 117 11503	220Ω 1% 0.1W
3710	4822 051 30223	22kΩ 5% 0.062W
3711	4822 050 11204	120k 1% 0.4W
3711	4822 050 21204	120KΩ 1% 0,6W
3712	4822 117 12706	10kΩ 1% 0.063W 0603
3713	4822 116 83884	47k 5% 0.5W
3714	4822 117 12925	47kΩ 1% 0.063W 0603
3715	4822 117 12925	47kΩ 1% 0.063W 0603
3716	4822 117 12925	47kΩ 1% 0.063W 0603
3717	4822 117 13632	100kΩ 1% 0603 0.62W
3718	4822 117 13632	100kΩ 1% 0603 0.62W
3719	4822 117 11503	220Ω 1% 0.1W
3720	4822 117 11503	220Ω 1% 0.1W
3721	2322 704 65102	5.1kΩ 1% 0603
3722	4822 051 30683	68kΩ 5% 0.062W
3723	4822 051 30563	56kΩ 5% 0.062W
3724	4822 117 11503	220Ω 1% 0.1W
3725	4822 051 30223	22kΩ 5% 0.062W
3726	4822 117 11503	220Ω 1% 0.1W
3727	4822 117 11503	220Ω 1% 0.1W
3728	4822 116 52234	100kΩ 5% 0,5W
3729	4822 117 10837	100kΩ 1% 0.1W
3730	4822 117 11503	220Ω 1% 0.1W
3731	4822 117 11503	220Ω 1% 0.1W
3732	4822 051 30223	22kΩ 5% 0.062W
3733	4822 051 30223	22kΩ 5% 0.062W
3734	4822 051 20124	120kΩ 5% 0.1W
3735	4822 051 30683	68kΩ 5% 0.062W
3736	4822 051 30563	56kΩ 5% 0.062W
3737	2322 704 65102	5.1kΩ 1% 0603
3738	4822 051 20828	8.2Ω 5% 0.1W
3739	4822 051 30683	68kΩ 5% 0.062W
3740	2322 704 65102	5.1kΩ 1% 0603
3741	2322 704 61243	12k4 1% 0603
3742	4822 051 30563	56kΩ 5% 0.062W
3743	4822 117 11449	2.2kΩ 5% 0.1W 0805
3744	4822 117 12891	220kΩ 1% 0.063W 0603
3745	4822 051 30102	1kΩ 5% 0.062W
3746	4822 051 30223	22kΩ 5% 0.062W
3748	4822 051 30008	Jumper 0603
3749	4822 116 83883	470Ω 5% 0.5W
3750	4822 117 11449	2.2kΩ 5% 0.1W 0805
3751	4822 117 11449	2.2kΩ 5% 0.1W 0805
3752	4822 117 11449	2.2kΩ 5% 0.1W 0805
3760	4822 117 12891	220kΩ 1% 0.063W 0603
3790	4822 051 30272	2.7kΩ 5% 0.062W
3791	4822 051 30272	2.7kΩ 5% 0.062W
3792	4822 051 30103	10kΩ 5% 0.062W
3793	4822 051 30103	10kΩ 5% 0.062W
3794	4822 051 30103	10kΩ 5% 0.062W
3795	4822 051 30103	10kΩ 5% 0.062W
3796	4822 051 30272	2.7kΩ 5% 0.062W
3797	4822 051 30272	2.7kΩ 5% 0.062W
3798	4822 051 30153	15kΩ 5% 0.062W
3903	4822 051 20561	560Ω 5% 0.1W
3904	4822 052 10688	6Ω8 5% 0.33W
3907	4822 051 20479	47Ω 5% 0.1W
3910	4822 117 12521	68Ω 1% 0.1W
3928	4822 051 30008	Jumper 0603
3938	4822 117 11373	100Ω 1% 0805
3939	4822 051 30103	10kΩ 5% 0.062W
3940	4822 051 20561	560Ω 5% 0.1W
3941	4822 052 10688	6Ω8 5% 0.33W
3942	4822 117 11373	100Ω 1% 0805
3943	4822 051 30103	10kΩ 5% 0.062W
3945	4822 117 12955	2.7kΩ 1% 0.1W 0805
3959	4822 117 10353	150Ω 1% 0.1W
3960	4822 117 10353	150Ω 1% 0.1W
3961	4822 117 10353	150Ω 1% 0.1W
3962	4822 117 10353	150Ω 1% 0.1W
3965	4822 117 10353	150Ω 1% 0.1W
3966	4822 117 10353	150Ω 1% 0.1W
3967	4822 116 52201	75Ω 5% 0.5W
3968	4822 116 52201	75Ω 5% 0.5W
3969	4822 051 20008	Jumper 0805
3970	4822 051 20008	Jumper 0805
3971	4822 116 52201	75Ω 5% 0.5W
3972	2122 101 02073	82Ω 5% 0,5W
3972	4822 116 52202	82Ω 5% 500mW
3973	4822 116 52201	75Ω 5% 0.5W
3974	4822 116 52201	75Ω 5% 0.5W
3975	4822 116 52201	75Ω 5% 0.5W
3976	4822 117 11373	100Ω 1% 0805
3977	4822 117 11373	100Ω 1% 0805
3978	4822 117 11373	100Ω 1% 0805
3979	4822 116 52201	75Ω 5% 0.5W
3980	4822 117 11373	100Ω 1% 0805
3981	4822 051 20822	8.2kΩ 5% 0,1W
3982	4822 051 20392	3.9kΩ 5% 0.1W
3983	4822 116 52175	100Ω 5% 0.5W
3984	4822 051 20822	8.2kΩ 5% 0,1W
3985	4822 116 52201	75Ω 5% 0.5W
3986	4822 116 52276	3.9kΩ 5% 0.5W
3987	4822 116 52175	100Ω 5% 0.5W
3988	4822 051 10102	1kΩ 2% 0.25W
3989	4822 050 11002	1k 1% 0.4W
3990	4822 117 10353	150Ω 1% 0.1W
3991	4822 117 10353	150Ω 1% 0.1W
3992	4822 117 10353	150Ω 1% 0.1W
3993	4822 116 83868	150Ω 5% 0.5W
3994	4822 051 10102	1kΩ 2% 0.25W
3995	4822 051 10102	1kΩ 2% 0.25W
3996	4822 117 10353	150Ω 1% 0.1W
3997	4822 117 10353	150Ω 1% 0.1W
9103	4822 051 20008	Jumper 0805
9105	4822 051 20008	Jumper 0805
9107	4822 051 30008	Jumper 0603
9108	4822 051 30008	Jumper 0603
9128	4822 051 30008	Jumper 0603
9200	4822 051 20008	Jumper 0805
9202	4822 051 30008	Jumper 0603
9203	4822 051 30008	Jumper 0603
9204	4822 051 30008	Jumper 0603
9205	4822 051 20008	Jumper 0805
9207	4822 051 30008	Jumper 0603
9208	4822 051 20008	Jumper 0805
9209	4822 051 20008	Jumper 0805
9210	4822 051 30008	Jumper 0603
9211	4822 051 30008	Jumper 0603
9212	4822 051 20008	Jumper 0805
9214	4822 051 20008	Jumper 0805
9215	4822 051 20008	Jumper 0805
9216	4822 051 20008	Jumper 0805
9217	4822 051 20008	Jumper 0805
9218	4822 051 20008	Jumper 0805
9219	4822 051 20008	Jumper 0805
9221	4822 051 20008	Jumper 0805
9222	4822 051 20008	Jumper 0805
9226	4822 051 30008	Jumper 0603
9251	4822 051 30008	Jumper 0603
9261	4822 051 20008	Jumper 0805
9262	4822 051 20008	Jumper 0805
9263	4822 051 20008	Jumper 0805
9264	4822 051 20008	Jumper 0805
9418	4822 051 20008	Jumper 0805
9421	4822 051 20008	Jumper 0805
9422	4822 051 30008	Jumper 0603
9424	4822 051 30008	Jumper 0603
9427	4822 051 30008	Jumper 0603
9428	4822 051 30008	Jumper 0603
9429	4822 051 30008	Jumper 0603
9430	4822 051 30008	Jumper 0603
9431	4822 051 30008	Jumper 0603
9432	4822 051 30008	Jumper 0603
9433	4822 051 30008	Jumper 0603
9434	4822 051 30008	Jumper 0603
9435	4822 051 30008	Jumper 0603
9436	4822 051 30008	Jumper 0603
9437	4822 051 30008	Jumper 0603
9438	4822 051 30008	Jumper 0603
9440	4822 051 30008	Jumper 0603
9441	4822 051 30008	Jumper 0603
9443	4822 051 30008	Jumper 0603
9481	4822 051 30008	Jumper 0603
9483	4822 051 30008	Jumper 0603
9499	4822 051 30008	Jumper 0603
9505	4822 051 20008	Jumper 0805
9560	4822 051 30008	Jumper 0603
9561	4822 051 20008	Jumper 0805
9621	4822 051 30008	Jumper 0603
9624	4822 051 30008	Jumper 0603
9676	4822 051 30008	Jumper 0603
9677	4822 051 20008	Jumper 0805
9702	4822 051 30008	Jumper 0603
9704	4822 051 20008	Jumper 0805
9705	4822 051 20008	Jumper 0805
9706	4822 051 30471	470Ω 5% 0.062W
9707	4822 051 30008	Jumper 0603
9711	4822 051 30008	Jumper 0603
9713	4822 051 30008	Jumper 0603
9714	4822 051 20008	Jumper 0805
9716	4822 051 20008	Jumper 0805
9717	4822 051 30008	Jumper 0603
9908	4822 051 30008	Jumper 0603
9927	4822 051 20008	Jumper 0805
9928	4822 051 20008	Jumper 0805
9960	4822 051 30008	Jumper 0603
9962	4822 051 30008	Jumper 0603
9966	4822 051 30008	Jumper 0603
9979	4822 051 20008	Jumper 0805
9981	4822 051 20008	Jumper 0805
9985	4822 051 30008	Jumper 0603
9986	4822 051 20008	Jumper 0805
9987	4822 051 20008	Jumper 0805
9988	4822 051 20008	Jumper 0805
9989	4822 051 20008	Jumper 0805
9990	4822 051 20008	Jumper 0805
9991	4822 051 20008	Jumper 0805
9992	4822 051 20008	Jumper 0805
9993	4822 051 20008	Jumper 0805
9994	4822 051 20008	Jumper 0805
9997	4822 051 20008	Jumper 0805

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5100⚠	3104 308 20431	Transformer BS25126-03
5100⚠	3104 308 20561	TFM BS25125-04 B
5102	2422 535 94639	10µH 20%
5103	4822 526 10704	Bead 45Ω at 50MHz
5104	4822 157 11411	Bead 83Ω at 100MHz
5105	2422 535 94632	1µH 30%
5106	4822 526 10704	Bead 45Ω at 50MHz
5111	4822 157 11411	Bead 83Ω at 100MHz

5113	4822 157 11411	Bead 83Ω at 100MHz
5130	4822 157 11411	Bead 83Ω at 100MHz
5400	4822 157 11869	33µH 10% LHL08
5401	2422 536 00059	12µH 10%
5402	3198 018 21510	150µH 10%
5410▲	3128 138 39091	Transformer CE165T
5411	4822 157 71097	0.56µH 10%
5421	3104 308 20471	Coil BL15131-00 Y
5421	3104 308 20591	Linearity coil 5µH
5421	3104 308 20611	Linearity coil 5µH 30”
5421	3104 308 20691	Linearity coil 5µH 34”
5422	3104 308 20671	Bridge coil BC21215-01
5422▲	3104 308 20752	Bridge coil BC21237-01 Y
5423	4822 157 71097	0.56µH 10%
5425	4822 157 11411	Bead 83Ω at 100MHz
5426	4822 157 70826	2.4µH
5430▲	3104 308 20491	LOT 1392.9014A
5430▲	3104 308 20521	LOT 1392.9005C 30”
5430▲	3104 308 20741	Trans. 1392.9010B Y
5461	4822 157 11411	Bead 83Ω at 100MHz
5463	4822 157 11411	Bead 83Ω at 100MHz
5465	4822 157 11411	Bead 83Ω at 100MHz
5466	2422 535 94996	18µH 10%
5467	4822 157 11411	Bead 83Ω at 100MHz
5469	4822 157 11411	Bead 83Ω at 100MHz
5503▲	2422 549 44877	Filter 45mH DMF2845H
5505	4822 157 11411	Bead 83Ω at 100MHz
5506▲	2422 531 02501	Transformer S30940-04
5507	4822 157 11411	Bead 83Ω at 100MHz
5509	4822 157 11411	Bead 83Ω at 100MHz
5511	3104 308 20511	FIL MAINS HARM 40MH Y
5513	4822 157 11869	33µH 10% LHL08
5514	4822 157 11869	33µH 10% LHL08
5515	4822 157 11869	33µH 10% LHL08
5620	4822 157 11771	0.09µH 10%
5621▲	3104 308 20571	Transformer S13974-03 34'
5701	2422 536 00385	68µH 10%
5702	2422 536 00385	68µH 10%
5703	4822 157 11716	Bead 30Ω at 100MHz
5707	4822 157 11411	Bead 83Ω at 100MHz
5708	4822 157 11411	Bead 83Ω at 100MHz
5711	4822 157 11411	Bead 83Ω at 100MHz
5712	4822 157 11411	Bead 83Ω at 100MHz
5715	4822 157 11411	Bead 83Ω at 100MHz
5716	4822 157 11411	Bead 83Ω at 100MHz
5720	2422 536 00385	68µH 10%
5721	2422 536 00385	68µH 10%
5722	4822 157 11411	Bead 83Ω at 100MHz
5723	4822 157 11411	Bead 83Ω at 100MHz
5725	4822 157 11411	Bead 83Ω at 100MHz
5901	4822 157 11299	10µH 5%
5902	4822 157 11869	33µH 10% LHL08
5903	4822 157 10359	33µH 10%
5904	4822 157 11411	Bead 83Ω at 100MHz

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6080	4822 130 11397	BAS316
6082	4822 130 11528	1PS76SB10
6084	4822 130 11522	UDZ15B
6103	4822 130 41601	BYV95A
6103	4822 130 42488	BYD33D
6103	5322 130 31938	BYV27-200
6105	4822 130 34281	BZX79-B15
6106	3198 010 52290	BZX79-B22
6107	4822 130 11572	STPS8H100F
6108	4822 130 11528	1PS76SB10
6109	4822 130 31083	BYW55
6110	9340 418 70133	BYV27-600
6111	9322 161 78682	SB360L-7024
6112	4822 130 11551	UDZS10B
6115	4822 130 11528	1PS76SB10
6118	4822 130 11397	BAS316
6119	4822 130 11397	BAS316
6120	4822 130 30621	1N4148
6121	4822 130 30621	1N4148
6122	3198 010 53980	BZX79-B3V9
6130	4822 130 11596	BYW29EX-200
6132	9322 171 80685	BZX384-B6V8
6133	4822 130 11397	BAS316
6134	4822 130 11397	BAS316
6141	9322 129 42685	BZM55-C15
6142	4822 130 11528	1PS76SB10
6144	4822 130 11397	BAS316
6147	4822 130 34278	BZX79-B6V8
6148	5322 130 31938	BYV27-200
6149	4822 130 11397	BAS316
6200	9340 548 71115	SM PDZ33B
6201	4822 130 11397	BAS316
6202	4822 130 11397	BAS316
6400	4822 130 70055	BYV27-400
6405	4822 130 34383	BZX79-B47
6406	4822 130 11397	BAS316
6407	4822 130 11397	BAS316
6408	4822 130 41601	BYV95A
6408	4822 130 42488	BYD33D
6421	4822 130 10753	BY359X-1500
6422	4822 130 10218	BY229X-800
6442	4822 130 11522	UDZ15B
6455	4822 130 11397	BAS316
6456	5322 130 34337	BAV99
6457	9322 102 64685	UDZ2.7B
6458	3198 020 55680	BZX384-C5V6
6460	4822 130 41487	BYV95C
6462	9322 127 32682	BYW76-RAS15/10
6464	9322 127 32682	BYW76-RAS15/10
6465	3139 120 52021	BYV29X-500
6480	4822 130 41601	BYV95A
6480	4822 130 42488	BYD33D
6481	4822 130 11522	UDZ15B
6482	4822 130 11397	BAS316
6483	4822 130 11528	1PS76SB10
6493	4822 130 11528	1PS76SB10
6505	4822 130 34281	BZX79-B15
6506	4822 130 10654	BAT254
6506	4822 130 80622	BAT54
6509	4822 130 11397	BAS316
6510	4822 130 61219	BZX79-B10
6511	4822 130 11397	BAS316
6512	4822 130 11397	BAS316
6514	5322 130 31932	BZT03-C200
6515	4822 130 33657	BZV85-C6V8
6516	4822 130 11397	BAS316
6517	4822 130 11528	1PS76SB10
6525▲	3198 010 10640	Bridge cell GBU4K
6530	4822 130 41487	BYV95C
6534	9322 165 72687	DTV1500MFP
6535	4822 130 11572	STPS8H100F
6536	4822 130 11572	STPS8H100F
6537	4822 130 11397	BAS316
6614	4822 130 11528	1PS76SB10
6615	4822 130 11397	BAS316
6616	4822 130 11397	BAS316
6617	4822 130 11397	BAS316
6618	4822 130 11397	BAS316
6619	4822 130 41601	BYV95A
6619	4822 130 42488	BYD33D
6620	5322 130 31938	BYV27-200
6621	4822 130 41601	BYV95A
6621	4822 130 42488	BYD33D
6622	5322 130 32296	BZV85-C10
6622	5322 130 33635	BZV85-C8V2
6623	4822 130 11397	BAS316
6624	4822 130 11397	BAS316
6625	4822 130 11397	BAS316
6626	4822 130 11397	BAS316
6627	4822 130 11397	BAS316
6701	4822 130 11397	BAS316
6745	4822 130 11551	UDZS10B
6950	4822 130 11416	PDZ6.8B
6951	4822 130 11416	PDZ6.8B
6953	4822 130 11416	PDZ6.8B
6954	4822 130 11416	PDZ6.8B
6955	4822 130 11416	PDZ6.8B
6956	4822 130 11416	PDZ6.8B
6957	4822 130 11416	PDZ6.8B
6958	4822 130 11416	PDZ6.8B
6959	4822 130 11416	PDZ6.8B
6960	9340 548 61115	PDZ12B
6961	4822 130 11416	PDZ6.8B
6962	4822 130 11416	PDZ6.8B

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7100	4822 130 44568	BC557B
7101	4822 130 40981	BC337-25
7102	4822 130 11417	STP3NB60FP
7103▲	9322 149 04682	TCET1102
7130	5322 130 60159	BC846B
7131	4822 130 11336	STP16NE06FP
7132	5322 130 60159	BC846B
7133	4822 130 60373	BC856B
7140	5322 130 60159	BC846B
7141	4822 130 11336	STP16NE06FP
7210	5322 130 60159	BC846B
7211	4822 130 42804	BC817-25
7408	5322 130 44647	BC368
7409	5322 130 60159	BC846B
7421	9340 210 30127	BU2520DX
7440	4822 209 70672	LM358N SEL.
7441	4822 130 60373	BC856B
7442	4822 130 60373	BC856B
7443	5322 130 60159	BC846B
7445	5322 130 60159	BC846B
7450	5322 209 61472	LM393M
7455	4822 209 73852	PMBT2369
7480	4822 130 11417	STP3NB60FP
7482▲	4822 130 11418	TCDT1102G
7486	5322 130 60159	BC846B
7487	5322 130 60159	BC846B
7501	5322 130 60159	BC846B
7502	4822 130 40959	BC547B
7504	9322 126 65687	STP5NB60FP
7506	4822 209 14933	TL431IZ
7507	9322 149 04682	TCET1102
7528	4822 130 40981	BC337-25
7529	4822 130 44461	BC546B
7530	5322 130 60159	BC846B
7611	5322 130 60159	BC846B
7612	5322 130 60159	BC846B
7613	4822 209 81397	TL431CLPST
7614	5322 130 60159	BC846B
7620	4822 209 90009	TDA8177
7641	5322 130 60159	BC846B
7653	5322 130 60159	BC846B
7654	4822 130 60373	BC856B
7680	4822 209 60956	TDA7052/N2
7681	5322 130 60159	BC846B
7682	5322 130 44647	BC368
7700	9322 163 86682	TDA7490L
7701	5322 130 60159	BC846B
7702	9322 163 86682	TDA7490L
7703	5322 130 60159	BC846B
7704	5322 130 60159	BC846B
7705	5322 130 60159	BC846B
7706	4822 130 60373	BC856B
7707	5322 130 60159	BC846B
7902	5322 130 60159	BC846B
7908	5322 130 60159	BC846B
7910	9322 166 03682	LD1085V36
7911	4822 209 72042	L78L05ACZ

Small Signal Panel [B]

Various

0072	3104 301 24191	Frame SSB A-side
0073	3104 301 24211	Cover SSB A-side
0074	3104 301 24221	Cover SSB Z-side
0075	3104 301 24201	Frame SSB Z-side
0265	3104 304 22841	FFC relieve
1001	2422 543 89022	Crystal 6MHz 20pF CX5F
1301	2422 540 98456	Resonator 12MHz CSTCV
1305	2422 543 01184	Crystal 4.433619MHz 20pF
1308	2422 543 01183	Crystal 3.579545MHz 16pF
1402	2422 025 16966	Connector 5P m v 2.00 SMD
1403▲	2422 086 11031	Fuse SMD 500mA 63V
1403▲	2422 086 11092	Fuse F0.5A 50V 1206
1407	2422 549 44324	Filt.5M5/5M74TPWCC04BS
1408	2422 549 44372	Filt. SAW 38.9MHz K3953L
1409	2422 549 44369	Filt. SAW 38.9MHz K9656L
1651	2422 543 89019	Crystal 18.432MHz 12pF
1680	2422 025 16961	Connector 6p m
1681	2422 025 17103	Connector 3p m
1682	2422 025 16729	Connector FFC 10p m
1702	2422 540 98456	Resonator 12MHz CSTCV
8402	3104 311 04711	Cable 5P/180/5P
8680	3104 311 04991	Cable 6P/400/6P
8682	3104 311 02951	Cable foil 10P/280/10P

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2001	2222 867 15339	33pF 5% 50V 0603
2002	4822 126 11669	27pF 5% 50V 0603
2003	4822 126 13879	220nF 20% 16V
2004	4822 126 13879	220nF 20% 16V
2005	2238 586 59812	100nF 20-80% 50V 0603
2006	2238 586 59812	100nF 20-80% 50V 0603
2007	2238 586 59812	100nF 20-80% 50V 0603
2008	2238 586 59812	100nF 20-80% 50V 0603
2010	4822 126 11785	47pF 5% 50V 0603
2011	4822 126 11785	47pF 5% 50V 0603
2012	4822 126 11785	47pF 5% 50V 0603
2013	4822 124 12095	100µF 20% 16V
2016	4822 124 12095	100µF 20% 16V
2017	2238 586 59812	100nF 20-80% 50V 0603
2019	2238 586 59812	100nF 20-80% 50V 0603
2020	4822 126 13883	220pF 5% 50V
2022	2238 586 59812	100nF 20-80% 50V 0603
2023	2238 586 59812	100nF 20-80% 50V 0603
2024	2238 586 59812	100nF 20-80% 50V 0603
2025	2238 586 59812	100nF 20-80% 50V 0603
2026	2238 586 59812	100nF 20-80% 50V 0603
2027	2238 586 59812	100nF 20-80% 50V 0603
2028	2238 586 59812	100nF 20-80% 50V 0603
2029	2238 586 59812	100nF 20-80% 50V 0603
2031	2238 586 59812	100nF 20-80% 50V 0603

2033	4822 126 14226	82pF 5% 50V 0603
2034	4822 126 14226	82pF 5% 50V 0603
2035	4822 126 14226	82pF 5% 50V 0603
2036	4822 126 14226	82pF 5% 50V 0603
2037	4822 126 14226	82pF 5% 50V 0603
2038	2238 586 59812	100nF 20-80% 50V 0603
2039	2238 586 59812	100nF 20-80% 50V 0603
2040	2238 586 59812	100nF 20-80% 50V 0603
2302	2238 586 59812	100nF 20-80% 50V 0603
2303	2020 552 96448	1µF 10% 16V
2304	4822 122 33741	10pF 10% 50V
2305	2238 586 59812	100nF 20-80% 50V 0603
2306	4822 126 13881	470pF 5% 50V
2307	2238 586 59812	100nF 20-80% 50V 0603
2308	4822 122 33741	10pF 10% 50V
2312	2020 552 96659	33nF 5% 50V 1206
2313	2020 552 96685	100nF 5% 25V 1206
2314	4822 124 12095	100µF 20% 16V
2315	2238 586 59812	100nF 20-80% 50V 0603
2316	2238 586 59812	100nF 20-80% 50V 0603
2317	2020 552 96448	1µF 10% 16V
2318	2238 916 15641	22nF 10% 25V 0603
2318	4822 126 14494	22nF 10% 25V 0603
2319	4822 126 14247	1.5nF 50V 0603
2320	4822 122 33741	10pF 10% 50V
2321	2238 586 59812	100nF 20-80% 50V 0603
2322	2238 586 59812	100nF 20-80% 50V 0603
2323	2238 586 59812	100nF 20-80% 50V 0603
2324	5322 126 11583	10nF 10% 50V 0603
2325	2238 586 59812	100nF 20-80% 50V 0603
2326	5322 126 11583	10nF 10% 50V 0603
2327	4822 051 30759	75Ω 5% 0.062W
2328	4822 122 33761	22pF 5% 50V
2329	2238 586 59812	100nF 20-80% 50V 0603
2330	2238 586 59812	100nF 20-80% 50V 0603
2331	2238 586 59812	100nF 20-80% 50V 0603
2332	2238 586 59812	100nF 20-80% 50V 0603
2333	4822 126 14491	2.2µF -20+80% 10V 0805
2334	4822 126 14491	2.2µF -20+80% 10V 0805
2336	4822 126 14491	2.2µF -20+80% 10V 0805
2340	4822 124 12095	100µF 20% 16V
2350	2238 586 59812	100nF 20-80% 50V 0603
2351	2238 586 59812	100nF 20-80% 50V 0603
2352	2238 586 59812	100nF 20-80% 50V 0603
2353	2238 586 59812	100nF 20-80% 50V 0603
2354	2238 586 59812	100nF 20-80% 50V 0603
2355	4822 051 30759	75Ω 5% 0.062W
2356	2238 586 59812	100nF 20-80% 50V 0603
2357	2238 586 59812	100nF 20-80% 50V 0603
2358	5322 126 11579	3.3nF 10% 63V
2359	4822 122 33752	15pF 5% 50V
2360	3198 016 31280	1.2pF 50V 0603
2361	3198 016 31280	1.2pF 50V 0603
2362	4822 126 11663	12pF 5% 50V 0603
2363	4822 126 13881	470pF 5% 50V
2364	4822 051 30759	75Ω 5% 0.062W
2365	2238 586 59812	100nF 20-80% 50V 0603
2366	2238 586 59812	100nF 20-80% 50V 0603
2367	2238 586 59812	100nF 20-80% 50V 0603
2368	2238 586 59812	100nF 20-80% 50V 0603
2369	2238 586 59812	100nF 20-80% 50V 0603
2370	2238 586 59812	100nF 20-80% 50V 0603
2371	4822 126 13193	4.7nF 10% 63V
2372	4822 126 14043	1µF 20% 16V
2373	2238 586 59812	100nF 20-80% 50V 0603
2374	4822 126 14491	2.2µF -20+80% 10V 0805
2375	2238 916 15641	22nF 10% 25V 0603
2375	4822 126 14494	22nF 10% 25V 0603
2376	2238 586 59812	100nF 20-80% 50V 0603
2377	4822 124 12095	100µF 20% 16V
2378	2238 586 59812	100nF 20-80% 50V 0603
2383	4822 051 30759	75Ω 5% 0.062W
2384	2238 586 59812	100nF 20-80% 50V 0603
2385	2238 586 59812	100nF 20-80% 50V 0603
2386	4822 126 13883	220pF 5% 50V
2390	2238 586 59812	100nF 20-80% 50V 0603
2391	2238 586 59812	100nF 20-80% 50V 0603
2392	4822 126 13193	4.7nF 10% 63V
2394	4822 126 14491	2.2µF -20+80% 10V 0805
2404	2020 552 96448	1µF 10% 16V
2405	4822 126 13193	4.7nF 10% 63V
2406	4822 126 13883	220pF 5% 50V
2407	4822 126 13956	68pF 5% 63V 0603
2408	3198 016 32780	2.7pF 50V 0603 NP0
2409	4822 126 14491	2.2µF -20+80% 10V 0805
2411	2238 586 59812	100nF 20-80% 50V 0603
2412	4822 126 13193	4.7nF 10% 63V
2417	3198 017 44740	470nF 10V 0603
2418	4822 126 13956	68pF 5% 63V 0603
2420	4822 122 33753	150pF 5% 50V
2422	2238 586 59812	100nF 20-80% 50V 0603
2424	2238 586 59812	100nF 20-80% 50V 0603
2425	4822 124 12095	100µF 20% 16V
2431	2238 586 59812	100nF 20-80% 50V 0603
2501	4822 126 11785	47pF 5% 50V 0603
2502	4822 126 14107	330nF +-80/20% 25V
2503	4822 126 14107	330nF +-80/20% 25V
2504	4822 126 14107	330nF +-80/20% 25V
2505	4822 126 14107	330nF +-80/20% 25V
2506	4822 126 14107	330nF +-80/20% 25V
2507	4822 126 14107	330nF +-80/20% 25V
2508	4822 124 12095	100µF 20% 16V
2509	4822 124 23002	10µF 20% 16V
2510	2020 552 96448	1µF 10% 16V
2511	2020 552 96448	1µF 10% 16V
2512	4822 126 13879	220nF 20% 16V
2513	3198 030 74780	4u7 20% 35V
2513	4822 124 12084	1µF 20% 50V SMD
2515	2020 552 94427	100pF 5% 50v 0603
2516	2020 552 96221	10µF 20% 6.3V 0805
2516	2020 552 96448	1µF 10% 16V
2516	4822 126 14491	2.2µF -20+80% 10V 0805
2520	2238 586 59812	100nF 20-80% 50V 0603
2521	2238 586 59812	100nF 20-80% 50V 0603
2522	4822 126 13881	470pF 5% 50V
2523	3198 016 31020	1nF 25V 0603
2524	2238 586 59812	100nF 20-80% 50V 0603
2525	4822 126 13881	470pF 5% 50V
2526	3198 016 31020	1nF 25V 0603
2528	4822 126 14585	100nF 10% 50V
2529	4822 126 14472	1µF 10% 10V 0805
2530	4822 126 14472	1µF 10% 10V 0805
2546	4822 124 23002	10µF 20% 16V
2547	4822 124 23002	10µF 20% 16V
2548	4822 124 23002	10µF 20% 16V
2549	4822 124 23002	10µF 20% 16V
2550	4822 126 14241	330pF 50V 0603
2552	4822 126 13881	470pF 5% 50V
2553	4822 126 13881	470pF 5% 50V
2554	4822 126 13881	470pF 5% 50V
2555	4822 126 13881	470pF 5% 50V
2562	3198 016 31020	1nF 25V 0603
2563	3198 016 31020	1nF 25V 0603
2564	3198 016 31020	1nF 25V 0603
2565	3198 016 31020	1nF 25V 0603
2566	3198 016 31020	1nF 25V 0603
2567	3198 016 31020	1nF 25V 0603
2568	3198 016 31020	1nF 25V 0603
2569	3198 016 31020	1nF 25V 0603
2570	3198 016 31020	1nF 25V 0603
2571	2020 552 94427	100pF 5% 50v 0603
2571	4822 051 30759	75Ω 5% 0.062W
2572	3198 016 31020	1nF 25V 0603
2573	3198 016 31020	1nF 25V 0603
2574	3198 016 31020	1nF 25V 0603
2575	3198 016 31020	1nF 25V 0603
2576	3198 016 31020	1nF 25V 0603
2577	3198 016 31020	1nF 25V 0603
2578	2020 552 94427	100pF 5% 50v 0603
2579	2020 552 94427	100pF 5% 50v 0603
2580	3198 016 31020	1nF 25V 0603
2581	3198 016 31020	1nF 25V 0603
2582	3198 016 31020	1nF 25V 0603
2583	3198 016 31020	1nF 25V 0603
2592	5322 126 11578	1nF 10% 50V 0603
2593	3198 016 31020	1nF 25V 0603
2594	3198 016 31020	1nF 25V 0603
2595	3198 016 31020	1nF 25V 0603
2600	2020 552 96448	1µF 10% 16V
2601	2020 552 96448	1µF 10% 16V
2602	2020 552 96448	1µF 10% 16V
2603	2020 552 96448	1µF 10% 16V
2604	2020 552 96448	1µF 10% 16V
2609	3198 016 31020	1nF 25V 0603
2610	4822 126 14238	2.2nF 50V 0603
2611	3198 016 31020	1nF 25V 0603
2629	4822 126 14107	330nF +-80/20% 25V
2630	4822 126 14491	2.2µF -20+80% 10V 0805
2632	4822 126 14107	330nF +-80/20% 25V
2634	3198 016 31020	1nF 25V 0603
2637	4822 126 14107	330nF +-80/20% 25V
2640	4822 126 13879	220nF 20% 16V
2643	4822 126 14107	330nF +-80/20% 25V
2644	3198 016 31020	1nF 25V 0603
2645	4822 126 14107	330nF +-80/20% 25V
2646	4822 126 14491	2.2µF -20+80% 10V 0805
2649	4822 126 14491	2.2µF -20+80% 10V 0805
2651	2238 586 59812	100nF 20-80% 50V 0603
2652	4822 126 11785	47pF 5% 50V 0603
2653	4822 126 14107	330nF +-80/20% 25V
2654	4822 126 13881	470pF 5% 50V
2659	4822 126 13881	470pF 5% 50V
2660	4822 126 13881	470pF 5% 50V
2661	4822 126 14107	330nF +-80/20% 25V
2662	4822 126 14107	330nF +-80/20% 25V
2663	4822 126 13881	470pF 5% 50V
2664	4822 126 13881	470pF 5% 50V
2665	4822 124 12095	100µF 20% 16V
2666	4822 124 12095	100µF 20% 16V
2667	3198 016 33380	3.3pF 50V 0603
2668	3198 016 33380	3.3pF 50V 0603
2670	2238 586 59812	100nF 20-80% 50V 0603
2673	3198 016 31020	1nF 25V 0603
2674	3198 016 31020	1nF 25V 0603
2677	4822 124 23002	10µF 20% 16V
2678	4822 124 23002	10µF 20% 16V
2679	2238 586 59812	100nF 20-80% 50V 0603
2680	4822 124 23002	10µF 20% 16V
2681	2238 586 59812	100nF 20-80% 50V 0603
2682	4822 124 23002	10µF 20% 16V
2686	3198 016 31020	1nF 25V 0603
2687	3198 016 31020	1nF 25V 0603
2690	2238 586 59812	100nF 20-80% 50V 0603
2691	4822 126 14491	2.2µF -20+80% 10V 0805
2693	4822 126 13883	220pF 5% 50V
2694	3198 016 31020	1nF 25V 0603
2695	4822 124 12095	100µF 20% 16V
2697	2238 586 59812	100nF 20-80% 50V 0603
2698	4822 126 14491	2.2µF -20+80% 10V 0805
2699	4822 126 14491	2.2µF -20+80% 10V 0805
2701	4822 122 33752	15pF 5% 50V
2704	4822 126 14507	18pF 5% 50V 0603
2707	4822 126 14507	18pF 5% 50V 0603
2709	2238 586 59812	100nF 20-80% 50V 0603
2710	2238 586 59812	100nF 20-80% 50V 0603
2711	2238 586 59812	100nF 20-80% 50V 0603
2712	2238 586 59812	100nF 20-80% 50V 0603
2713	4822 122 33761	22pF 5% 50V
2714	4822 122 33761	22pF 5% 50V
2716	2238 586 59812	100nF 20-80% 50V 0603
2717	4822 126 11663	12pF 5% 50V 0603
2718	4822 122 33752	15pF 5% 50V
2719	4822 122 33752	15pF 5% 50V
2720	4822 122 33752	15pF 5% 50V
2721	2020 552 94427	100pF 5% 50v 0603
2722	2020 552 94427	100pF 5% 50v 0603
2723	4822 126 14225	56pF 5% 50V 0603
2724	2020 552 94427	100pF 5% 50v 0603
2725	4822 126 11663	12pF 5% 50V 0603
2726	4822 126 11669	27pF 5% 50V 0603
2727	4822 126 11663	12pF 5% 50V 0603
2728	2020 021 91554	10µF 20% 16V
2729	2238 586 59812	100nF 20-80% 50V 0603
2730	2020 021 91557	100µF 20% 16V
2731	2238 586 59812	100nF 20-80% 50V 0603
2732	2238 586 59812	100nF 20-80% 50V 0603
2733	2238 586 59812	100nF 20-80% 50V 0603
2734	2238 586 59812	100nF 20-80% 50V 0603
2735	2238 586 59812	100nF 20-80% 50V 0603
2736	4822 126 11669	27pF 5% 50V 0603
2737	4822 126 11663	12pF 5% 50V 0603
2738	4822 126 11663	12pF 5% 50V 0603
2739	4822 126 11669	27pF 5% 50V 0603
2740	2238 916 15641	22nF 10% 25V 0603
2740	4822 126 14494	22nF 10% 25V 0603
2741	2238 916 15641	22nF 10% 25V 0603
2741	4822 126 14494	22nF 10% 25V 0603
2742	2238 916 15641	22nF 10% 25V 0603
2742	4822 126 14494	22nF 10% 25V 0603
2743	2238 586 59812	100nF 20-80% 50V 0603
2744	2238 586 59812	100nF 20-80% 50V 0603
2745	2238 586 59812	100nF 20-80% 50V 0603
2746	2238 586 59812	100nF 20-80% 50V 0603
2747	2238 586 59812	100nF 20-80% 50V 0603
2748	2238 586 59812	100nF 20-80% 50V 0603
2749	2020 021 91554	10µF 20% 16V
2750	2238 586 59812	100nF 20-80% 50V 0603
2751	2238 586 59812	100nF 20-80% 50V 0603
2752	2238 586 59812	100nF 20-80% 50V 0603
2753	2238 586 59812	100nF 20-80% 50V 0603
2754	2238 586 59812	100nF 20-80% 50V 0603
2755	2238 586 59812	100nF 20-80% 50V 0603
2756	2238 586 59812	100nF 20-80% 50V 0603
2757	2238 916 15641	22nF 10% 25V 0603
2757	4822 126 14494	22nF 10% 25V 0603
2760	2238 586 59812	100nF 20-80% 50V 0603
2761	2238 586 59812	100nF 20-80% 50V 0603
2762	2238 586 59812	100nF 20-80% 50V 0603
2763	2238 586 59812	100nF 20-80% 50V 0603
2764	2238 586 59812	100nF 20-80% 50V 0603
2765	2238 586 59812	100nF 20-80% 50V 0603
2766	2238 586 59812	100nF 20-80% 50V 0603
2767	2238 586 59812	100nF 20-80% 50V 0603
2768	2238 586 59812	100nF 20-80% 50V 0603
2769	2238 586 59812	100nF 20-80% 50V 0603
2770	2020 021 91554	10µF 20% 16V
2771	2238 586 59812	100nF 20-80% 50V 0603
2772	2020 021 91557	100µF 20% 16V
2773	2238 586 59812	100nF 20-80% 50V 0603
2774	2238 586 59812	100nF 20-80% 50V 0603
2774	3198 017 44740	470nF 10V 0603
2775	2238 586 59812	100nF 20-80% 50V 0603

2776	2238 586 59812	100nF 20-80% 50V 0603
2777	2238 586 59812	100nF 20-80% 50V 0603
2778	2238 586 59812	100nF 20-80% 50V 0603
2779	2238 586 59812	100nF 20-80% 50V 0603
2780	2238 586 59812	100nF 20-80% 50V 0603
2781	2238 586 59812	100nF 20-80% 50V 0603
2782	2238 586 59812	100nF 20-80% 50V 0603
2783	2238 586 59812	100nF 20-80% 50V 0603
2784	2238 586 59812	100nF 20-80% 50V 0603
2785	2238 586 59812	100nF 20-80% 50V 0603
2786	2238 586 59812	100nF 20-80% 50V 0603
2787	2238 586 59812	100nF 20-80% 50V 0603
2788	2238 586 59812	100nF 20-80% 50V 0603
2789	2238 586 59812	100nF 20-80% 50V 0603
2790	2238 586 59812	100nF 20-80% 50V 0603
2791	2238 586 59812	100nF 20-80% 50V 0603
2792	2020 021 91554	10µF 20% 16V
2793	2238 586 59812	100nF 20-80% 50V 0603
2794	2020 021 91554	10µF 20% 16V
2795	2238 586 59812	100nF 20-80% 50V 0603
2796	2238 586 59812	100nF 20-80% 50V 0603
2797	2238 586 59812	100nF 20-80% 50V 0603
2798	2238 586 59812	100nF 20-80% 50V 0603
2799	2238 586 59812	100nF 20-80% 50V 0603
2800	2238 586 59812	100nF 20-80% 50V 0603
2801	2238 586 59812	100nF 20-80% 50V 0603
2802	2238 586 59812	100nF 20-80% 50V 0603
2803	2238 586 59812	100nF 20-80% 50V 0603
2804	2238 586 59812	100nF 20-80% 50V 0603
2805	2238 586 59812	100nF 20-80% 50V 0603
2807	2238 586 59812	100nF 20-80% 50V 0603
2808	2020 021 91554	10µF 20% 16V
2809	2238 586 59812	100nF 20-80% 50V 0603
2810	2238 586 59812	100nF 20-80% 50V 0603
2811	2238 586 59812	100nF 20-80% 50V 0603
2812	2238 586 59812	100nF 20-80% 50V 0603
2813	2238 586 59812	100nF 20-80% 50V 0603
2814	2238 586 59812	100nF 20-80% 50V 0603
2815	4822 126 14223	2.2pF +-0.25pF 50V 0603
2816	4822 126 14223	2.2pF +-0.25pF 50V 0603
2817	2238 586 59812	100nF 20-80% 50V 0603
2818	4822 126 14223	2.2pF +-0.25pF 50V 0603
2819	2238 586 59812	100nF 20-80% 50V 0603
2820	2238 586 59812	100nF 20-80% 50V 0603
2821	2238 586 59812	100nF 20-80% 50V 0603
2822	2238 586 59812	100nF 20-80% 50V 0603
2823	5322 126 11578	1nF 10% 50V 0603
2824	5322 126 11578	1nF 10% 50V 0603
2825	2238 586 59812	100nF 20-80% 50V 0603
2826	2238 586 59812	100nF 20-80% 50V 0603
2827	2238 586 59812	100nF 20-80% 50V 0603
2828	2238 586 59812	100nF 20-80% 50V 0603
2829	2238 586 59812	100nF 20-80% 50V 0603
2830	2238 586 59812	100nF 20-80% 50V 0603
2831	4822 126 13956	68pF 5% 63V 0603
2832	2238 586 59812	100nF 20-80% 50V 0603
2833	2238 586 59812	100nF 20-80% 50V 0603
2835	2238 586 59812	100nF 20-80% 50V 0603
2838	2238 586 59812	100nF 20-80% 50V 0603
2843	2238 586 59812	100nF 20-80% 50V 0603
2845	2238 586 59812	100nF 20-80% 50V 0603
2846	2238 586 59812	100nF 20-80% 50V 0603
2847	2238 586 59812	100nF 20-80% 50V 0603
2848	2238 586 59812	100nF 20-80% 50V 0603
2851	2238 586 59812	100nF 20-80% 50V 0603
2853	2238 586 59812	100nF 20-80% 50V 0603
2854	2238 586 59812	100nF 20-80% 50V 0603
2855	2238 586 59812	100nF 20-80% 50V 0603
2857	2238 586 59812	100nF 20-80% 50V 0603
2859	2238 586 59812	100nF 20-80% 50V 0603
2860	2238 586 59812	100nF 20-80% 50V 0603
2861	2238 586 59812	100nF 20-80% 50V 0603
2864	2238 586 59812	100nF 20-80% 50V 0603
2865	2238 586 59812	100nF 20-80% 50V 0603
2866	2238 586 59812	100nF 20-80% 50V 0603
2867	2238 586 59812	100nF 20-80% 50V 0603
2870	2020 021 91554	10µF 20% 16V
2871	2020 021 91554	10µF 20% 16V
2872	2238 586 59812	100nF 20-80% 50V 0603
2874	2020 021 91554	10µF 20% 16V
2875	2020 021 91554	10µF 20% 16V
2876	2238 586 59812	100nF 20-80% 50V 0603
2878	2020 552 94427	100pF 5% 50v 0603
2880	2020 021 91557	100µF 20% 16V
2881	4822 126 11669	27pF 5% 50V 0603
2884	2238 586 59812	100nF 20-80% 50V 0603
2885	4822 126 11663	12pF 5% 50V 0603
2886	2238 586 59812	100nF 20-80% 50V 0603
2887	2238 586 59812	100nF 20-80% 50V 0603
2888	2238 586 59812	100nF 20-80% 50V 0603
2889	2238 586 59812	100nF 20-80% 50V 0603
2890	2238 586 59812	100nF 20-80% 50V 0603
2891	2238 586 59812	100nF 20-80% 50V 0603
2892	2238 586 59812	100nF 20-80% 50V 0603
2893	2238 586 59812	100nF 20-80% 50V 0603
2894	2238 586 59812	100nF 20-80% 50V 0603
2895	2238 586 59812	100nF 20-80% 50V 0603
2896	2238 586 59812	100nF 20-80% 50V 0603
2897	2238 586 59812	100nF 20-80% 50V 0603
2898	2238 586 59812	100nF 20-80% 50V 0603
2899	2238 586 59812	100nF 20-80% 50V 0603
2908	2238 586 59812	100nF 20-80% 50V 0603
2909	2238 586 59812	100nF 20-80% 50V 0603
2910	2238 586 59812	100nF 20-80% 50V 0603
2911	2238 586 59812	100nF 20-80% 50V 0603
2912	2238 586 59812	100nF 20-80% 50V 0603
2912	3198 017 44740	470nF 10V 0603

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3001	4822 051 30472	4.7kΩ 5% 0.062W
3002	4822 051 30472	4.7kΩ 5% 0.062W
3003	4822 117 13525	24kΩ 1% 0.62W 0603
3005	4822 051 30103	10kΩ 5% 0.062W
3006	4822 051 30471	470Ω 5% 0.062W
3007	3198 031 14710	4 x 470Ω 5% 1206
3008	4822 117 13526	150Ω 5% 0.63W
3009	4822 117 13501	82Ω 5% 0.62W 0603
3011	4822 051 30471	470Ω 5% 0.062W
3012	3198 031 11010	4 x 100Ω 5% 1206
3013	4822 051 30103	10kΩ 5% 0.062W
3014	4822 051 30682	6.8kΩ 5% 0.062W
3015	4822 051 30474	470kΩ 5% 0.062W
3016	4822 051 30152	1.5kΩ 5% 0.062W
3017	4822 051 30472	4.7kΩ 5% 0.062W
3018	4822 051 30103	10kΩ 5% 0.062W
3019	4822 051 30472	4.7kΩ 5% 0.062W
3020	4822 051 30103	10kΩ 5% 0.062W
3021	4822 051 30103	10kΩ 5% 0.062W
3024	4822 051 30273	27kΩ 5% 0.062W
3025	4822 051 30221	220Ω 5% 0.062W
3026	4822 051 30472	4.7kΩ 5% 0.062W
3027	4822 117 12925	47kΩ 1% 0.063W 0603
3029	4822 051 30103	10kΩ 5% 0.062W
3031	4822 051 30103	10kΩ 5% 0.062W
3033	4822 051 30103	10kΩ 5% 0.062W
3034	3198 031 11010	4 x 100Ω 5% 1206
3035	3198 031 11010	4 x 100Ω 5% 1206
3039	4822 051 30181	180Ω 5% 0.062W
3040	4822 051 30472	4.7kΩ 5% 0.062W
3042	4822 051 30472	4.7kΩ 5% 0.062W
3044	4822 051 30272	2.7kΩ 5% 0.062W
3048	3198 031 11010	4 x 100Ω 5% 1206
3049	3198 031 11010	4 x 100Ω 5% 1206
3050	3198 031 11010	4 x 100Ω 5% 1206
3051	3198 031 11010	4 x 100Ω 5% 1206
3052	3198 031 11010	4 x 100Ω 5% 1206
3053	4822 051 30101	100Ω 5% 0.062W
3054	3198 031 11010	4 x 100Ω 5% 1206
3055	3198 031 11010	4 x 100Ω 5% 1206
3056	3198 031 11010	4 x 100Ω 5% 1206
3057	3198 031 11010	4 x 100Ω 5% 1206
3059	2322 704 66201	620Ω 1% 0603
3061	4822 051 30103	10kΩ 5% 0.062W
3062	4822 051 30103	10kΩ 5% 0.062W
3064	3198 031 11010	4 x 100Ω 5% 1206
3065	4822 051 30472	4.7kΩ 5% 0.062W
3066	4822 117 12925	47kΩ 1% 0.063W 0603
3067	4822 051 30474	470kΩ 5% 0.062W
3068	4822 051 30272	2.7kΩ 5% 0.062W
3069	4822 051 30272	2.7kΩ 5% 0.062W
3073	3198 031 14710	4 x 470Ω 5% 1206
3074	3198 031 14710	4 x 470Ω 5% 1206
3076	3198 031 14710	4 x 470Ω 5% 1206
3078	3198 031 14710	4 x 470Ω 5% 1206
3079	4822 051 30472	4.7kΩ 5% 0.062W
3080	4822 051 30472	4.7kΩ 5% 0.062W
3081	4822 051 30008	Jumper 0603
3088	4822 051 30472	4.7kΩ 5% 0.062W
3090	3198 031 14710	4 x 470Ω 5% 1206
3093	4822 051 30103	10kΩ 5% 0.062W
3094	4822 117 12925	47kΩ 1% 0.063W 0603
3095	4822 117 12925	47kΩ 1% 0.063W 0603
3096	4822 117 12925	47kΩ 1% 0.063W 0603
3097	4822 051 30008	Jumper 0603
3099	3198 031 14710	4 x 470Ω 5% 1206
3301	4822 117 13632	100kΩ 1% 0603 0.62W
3302	4822 051 30102	1kΩ 5% 0.062W
3303	4822 117 13632	100kΩ 1% 0603 0.62W
3304▲	2322 750 63908	3.9Ω 5% Fuse 1206
3306	4822 051 30221	220Ω 5% 0.062W
3307	4822 051 30183	18kΩ 5% 0.062W
3308	4822 051 20154	150kΩ 5% 0.1W
3310	4822 051 30563	56kΩ 5% 0.062W
3311	4822 117 13632	100kΩ 1% 0603 0.62W
3312	4822 117 13632	100kΩ 1% 0603 0.62W
3313	4822 117 13632	100kΩ 1% 0603 0.62W
3314	4822 051 30103	10kΩ 5% 0.062W
3315	4822 051 30102	1kΩ 5% 0.062W
3316	4822 117 10834	47kΩ 1% 0.1W
3317	4822 051 30221	220Ω 5% 0.062W
3318	4822 051 30102	1kΩ 5% 0.062W
3319	4822 051 30102	1kΩ 5% 0.062W
3320	4822 051 30101	100Ω 5% 0.062W
3321	4822 051 30101	100Ω 5% 0.062W
3322	4822 051 10102	1kΩ 2% 0.25W
3323	4822 117 12925	47kΩ 1% 0.063W 0603
3324	4822 051 30472	4.7kΩ 5% 0.062W
3327	4822 117 13632	100kΩ 1% 0603 0.62W
3328	4822 051 30393	39kΩ 5% 0.062W
3329	4822 117 13568	6.8Ω 5% 1206
3331	4822 051 30102	1kΩ 5% 0.062W
3333	4822 051 30102	1kΩ 5% 0.062W
3334	4822 051 30102	1kΩ 5% 0.062W
3336	4822 051 30102	1kΩ 5% 0.062W
3340	4822 051 30101	100Ω 5% 0.062W
3341	4822 051 30101	100Ω 5% 0.062W
3342	4822 051 30101	100Ω 5% 0.062W
3343	4822 051 20683	68kΩ 5% 0.1W
3344	4822 051 30222	2.2kΩ 5% 0.062W
3345	4822 051 30103	10kΩ 5% 0.062W
3346	4822 051 30333	33kΩ 5% 0.062W
3347	4822 051 30223	22kΩ 5% 0.062W
3348	4822 051 30222	2.2kΩ 5% 0.062W
3349	4822 051 30472	4.7kΩ 5% 0.062W
3362	4822 051 30684	680kΩ 5% 0.062W
3363	4822 051 30102	1kΩ 5% 0.062W
3364	4822 051 30103	10kΩ 5% 0.062W
3365	4822 051 30103	10kΩ 5% 0.062W
3366	4822 051 30221	220Ω 5% 0.062W
3367	4822 051 30221	220Ω 5% 0.062W
3368	3198 021 32250	2M2 5% 0603
3370	4822 051 30101	100Ω 5% 0.062W
3371	4822 051 30479	47Ω 5% 0.062W
3372	4822 051 30471	470Ω 5% 0.062W
3373	4822 051 30008	Jumper 0603
3374	4822 051 30008	Jumper 0603
3375	4822 051 30008	Jumper 0603
3376	4822 051 30101	100Ω 5% 0.062W
3377	4822 051 30101	100Ω 5% 0.062W
3378	4822 051 30153	15kΩ 5% 0.062W
3379	4822 051 30008	Jumper 0603
3380	4822 051 30101	100Ω 5% 0.062W
3382	4822 051 30561	560Ω 5% 0.062W
3385	4822 051 30471	470Ω 5% 0.062W
3386	4822 051 30223	22kΩ 5% 0.062W
3390	4822 051 30221	220Ω 5% 0.062W
3391	4822 051 30472	4.7kΩ 5% 0.062W
3393	4822 117 13632	100kΩ 1% 0603 0.62W
3394	4822 051 30472	4.7kΩ 5% 0.062W
3400	4822 117 11152	4.7Ω 5% 0.062W
3402▲	2322 750 63908	3.9Ω 5% Fuse 1206
3403	4822 051 30101	100Ω 5% 0.062W
3404	4822 051 30561	560Ω 5% 0.062W
3405	4822 051 30102	1kΩ 5% 0.062W
3406	2322 702 60279	27Ω 5% 0.1W 0603
3408	4822 051 30101	100Ω 5% 0.062W
3411	4822 051 30272	2.7kΩ 5% 0.062W
3412	4822 051 30102	1kΩ 5% 0.062W
3414	4822 051 30472	4.7kΩ 5% 0.062W
3415	4822 051 30222	2.2kΩ 5% 0.062W
3418	4822 051 30391	390Ω 5% 0.062W
3419	4822 051 30339	33Ω 5% 0.062W
3435	4822 051 30472	4.7kΩ 5% 0.062W
3436	4822 051 30181	180Ω 5% 0.062W
3437	4822 051 30471	470Ω 5% 0.062W
3439	4822 051 30471	470Ω 5% 0.062W
3441	4822 051 30562	5.6kΩ 5% 0.063W 0603
3445	4822 051 30271	270Ω 5% 0.062W
3446	4822 051 30101	100Ω 5% 0.062W
3463	4822 051 30472	4.7kΩ 5% 0.062W
3468	4822 117 13632	100kΩ 1% 0603 0.62W
3472	4822 051 30223	22kΩ 5% 0.062W
3500	4822 051 30153	15kΩ 5% 0.062W
3501	4822 051 20479	47Ω 5% 0.1W
3501	4822 157 11716	Bead 30Ω at 100MHz
3504	4822 051 30123	12kΩ 5% 0.062W
3505	4822 051 30153	15kΩ 5% 0.062W
3506	4822 051 20479	47Ω 5% 0.1W
3506	4822 157 11716	Bead 30Ω at 100MHz
3509	4822 051 30123	12kΩ 5% 0.062W
3510	4822 117 12925	47kΩ 1% 0.063W 0603
3511	4822 117 13632	100kΩ 1% 0603 0.62W
3512	4822 051 30154	150k 5% 0.062W
3513	4822 117 12889	270kΩ 1% 0.063W 0603
3514	4822 117 12925	47kΩ 1% 0.063W 0603
3515	4822 117 13632	100kΩ 1% 0603 0.62W
3516	4822 051 30392	3.9kΩ 5% 0.063W 0603
3517	4822 051 30472	4.7kΩ 5% 0.062W
3519	4822 051 30103	10kΩ 5% 0.062W
3520	4822 117 12925	47kΩ 1% 0.063W 0603

3521	4822 117 13632	100kΩ 1% 0603 0.62W
3522	4822 117 13632	100kΩ 1% 0603 0.62W
3523	4822 117 13632	100kΩ 1% 0603 0.62W
3524	4822 117 13632	100kΩ 1% 0603 0.62W
3525	4822 051 30684	680kΩ 5% 0.062W
3526	4822 051 30105	1MΩ 5% 0.062W
3527	4822 051 30101	100Ω 5% 0.062W
3528	4822 051 30103	10kΩ 5% 0.062W
3529	4822 051 30103	10kΩ 5% 0.062W
3530	4822 051 30103	10kΩ 5% 0.062W
3531	4822 117 12902	8.2kΩ 1% 0.063W 0603
3532	4822 051 30102	1kΩ 5% 0.062W
3533	4822 051 30103	10kΩ 5% 0.062W
3540	4822 051 30103	10kΩ 5% 0.062W
3544	4822 117 12925	47kΩ 1% 0.063W 0603
3545	4822 117 11817	1.2kΩ 1% 1/16W
3546	4822 051 30102	1kΩ 5% 0.062W
3547	4822 117 12925	47kΩ 1% 0.063W 0603
3552	4822 051 30103	10kΩ 5% 0.062W
3553	4822 051 30223	22kΩ 5% 0.062W
3554	4822 051 30223	22kΩ 5% 0.062W
3555	4822 051 30223	22kΩ 5% 0.062W
3556	4822 051 30101	100Ω 5% 0.062W
3557	4822 051 30101	100Ω 5% 0.062W
3558	4822 051 30101	100Ω 5% 0.062W
3559	4822 051 30101	100Ω 5% 0.062W
3560	4822 051 30101	100Ω 5% 0.062W
3561	4822 051 30101	100Ω 5% 0.062W
3562	4822 051 30101	100Ω 5% 0.062W
3563	4822 051 30101	100Ω 5% 0.062W
3564	4822 051 30101	100Ω 5% 0.062W
3567	4822 051 30101	100Ω 5% 0.062W
3568	4822 051 30101	100Ω 5% 0.062W
3569	4822 051 30101	100Ω 5% 0.062W
3570	4822 051 30101	100Ω 5% 0.062W
3571	4822 051 30101	100Ω 5% 0.062W
3572	4822 051 30101	100Ω 5% 0.062W
3573	4822 051 30101	100Ω 5% 0.062W
3574	4822 051 30101	100Ω 5% 0.062W
3575	4822 051 30101	100Ω 5% 0.062W
3576	4822 051 30272	2.7kΩ 5% 0.062W
3577	4822 051 30101	100Ω 5% 0.062W
3578	4822 051 30103	10kΩ 5% 0.062W
3579	4822 051 30103	10kΩ 5% 0.062W
3601	4822 051 30223	22kΩ 5% 0.062W
3602	4822 051 30124	120kΩ 5% 0.062W
3603	4822 117 12891	220kΩ 1% 0.063W 0603
3604	4822 051 30124	120kΩ 5% 0.062W
3605	4822 117 12891	220kΩ 1% 0.063W 0603
3606	4822 051 30124	120kΩ 5% 0.062W
3607	4822 117 12891	220kΩ 1% 0.063W 0603
3608	4822 051 30124	120kΩ 5% 0.062W
3609	4822 117 12891	220kΩ 1% 0.063W 0603
3612	4822 117 12925	47kΩ 1% 0.063W 0603
3613	4822 117 12925	47kΩ 1% 0.063W 0603
3614	4822 117 12925	47kΩ 1% 0.063W 0603
3615	4822 117 12925	47kΩ 1% 0.063W 0603
3616	4822 051 30272	2.7kΩ 5% 0.062W
3624	4822 117 11817	1.2kΩ 1% 1/16W
3626	4822 051 30154	150k 5% 0.062W
3627	4822 051 30103	10kΩ 5% 0.062W
3628	4822 051 30223	22kΩ 5% 0.062W
3630	4822 051 30563	56kΩ 5% 0.062W
3634	4822 051 30121	120Ω 5% 0.062W
3636	4822 051 30271	270Ω 5% 0.062W
3637	4822 117 12864	82kΩ 5% 0.6W
3639	4822 051 30102	1kΩ 5% 0.062W
3640	4822 051 30101	100Ω 5% 0.062W
3641	4822 051 30101	100Ω 5% 0.062W
3642	4822 051 30101	100Ω 5% 0.062W
3643	4822 051 30101	100Ω 5% 0.062W
3644	4822 117 11152	4.7Ω 5% 0.062W
3653	4822 051 30008	Jumper 0603
3654	4822 051 30008	Jumper 0603
3655	4822 051 30101	100Ω 5% 0.062W
3656	4822 051 30101	100Ω 5% 0.062W
3657	4822 051 30563	56kΩ 5% 0.062W
3658	4822 051 30154	150k 5% 0.062W
3659	4822 051 30154	150k 5% 0.062W
3663	4822 051 30181	180Ω 5% 0.062W
3664	4822 051 30102	1kΩ 5% 0.062W
3666	4822 051 30154	150k 5% 0.062W
3667	4822 117 12864	82kΩ 5% 0.6W
3668	4822 051 30563	56kΩ 5% 0.062W
3669	4822 051 30271	270Ω 5% 0.062W
3670	4822 051 30102	1kΩ 5% 0.062W
3671	4822 117 11817	1.2kΩ 1% 1/16W
3673	4822 051 30103	10kΩ 5% 0.062W
3675	4822 051 30181	180Ω 5% 0.062W
3676	4822 117 13632	100kΩ 1% 0603 0.62W
3677	4822 117 13632	100kΩ 1% 0603 0.62W
3680	4822 117 11817	1.2kΩ 1% 1/16W
3681	4822 051 30154	150k 5% 0.062W
3682	4822 051 30102	1kΩ 5% 0.062W
3683	4822 051 30223	22kΩ 5% 0.062W
3684	4822 051 30008	Jumper 0603
3685	4822 051 30008	Jumper 0603
3688	4822 051 30008	Jumper 0603
3689	4822 051 30008	Jumper 0603
3692	4822 051 30008	Jumper 0603
3693	4822 051 30008	Jumper 0603
3698	4822 117 11817	1.2kΩ 1% 1/16W
3699	2322 702 60184	180k 5% 0603
3703	5322 117 13062	390R 1% 0.063W 0603
3704	5322 117 13047	330Ω 1% 0.063W 0603
3705	5322 117 13047	330Ω 1% 0.063W 0603
3709	4822 051 30101	100Ω 5% 0.062W
3710	4822 051 30101	100Ω 5% 0.062W
3711	4822 117 12925	47kΩ 1% 0.063W 0603
3712	4822 117 12925	47kΩ 1% 0.063W 0603
3713	4822 051 30181	180Ω 5% 0.062W
3714	4822 051 30181	180Ω 5% 0.062W
3715	4822 051 30181	180Ω 5% 0.062W
3716	4822 117 13632	100kΩ 1% 0603 0.62W
3717	4822 117 13632	100kΩ 1% 0603 0.62W
3718	4822 117 13632	100kΩ 1% 0603 0.62W
3719	4822 051 30332	3.3kΩ 5% 0.062W
3720	4822 051 30103	10kΩ 5% 0.062W
3721	4822 117 12917	1Ω 5% 0.062W 0603
3725	4822 051 30332	3.3kΩ 5% 0.062W
3726	4822 117 11817	1.2kΩ 1% 1/16W
3727	4822 051 30151	150Ω 5% 0.062W
3728	4822 051 30151	150Ω 5% 0.062W
3729	4822 051 30689	68Ω 5% 0.063W 0603
3730	4822 051 30681	680Ω 5% 0.062W
3731	4822 051 30472	4.7kΩ 5% 0.062W
3733	4822 051 30472	4.7kΩ 5% 0.062W
3735	4822 117 12917	1Ω 5% 0.062W 0603
3736	4822 051 30101	100Ω 5% 0.062W
3737	4822 051 30102	1kΩ 5% 0.062W
3738	4822 051 30102	1kΩ 5% 0.062W
3739	4822 051 30153	15kΩ 5% 0.062W
3740	4822 051 30102	1kΩ 5% 0.062W
3741	4822 051 30183	18kΩ 5% 0.062W
3742	4822 051 30183	18kΩ 5% 0.062W
3744	4822 051 30222	2.2kΩ 5% 0.062W
3745	4822 051 30102	1kΩ 5% 0.062W
3746	4822 051 30392	3.9kΩ 5% 0.063W 0603
3747	4822 051 30154	150k 5% 0.062W
3748	4822 117 12891	220kΩ 1% 0.063W 0603
3749	4822 051 30392	3.9kΩ 5% 0.063W 0603
3750	4822 051 30332	3.3kΩ 5% 0.062W
3751	4822 051 30472	4.7kΩ 5% 0.062W
3752	4822 117 12917	1Ω 5% 0.062W 0603
3753	4822 117 12917	1Ω 5% 0.062W 0603
3754	4822 051 30101	100Ω 5% 0.062W
3755	4822 051 30472	4.7kΩ 5% 0.062W
3756	4822 117 12902	8.2kΩ 1% 0.063W 0603
3757	4822 051 30479	47Ω 5% 0.062W
3758	4822 051 30472	4.7kΩ 5% 0.062W
3759	4822 051 30221	220Ω 5% 0.062W
3762	4822 051 30101	100Ω 5% 0.062W
3763	4822 051 30221	220Ω 5% 0.062W
3763	4822 117 12139	22Ω 5% 0.062W
3764	4822 051 30109	10Ω 5% 0.062W
3771	4822 117 12971	15Ω 5% 0.62W 0603
3772	4822 117 12971	15Ω 5% 0.62W 0603
3773	4822 117 12925	47kΩ 1% 0.063W 0603
3774	4822 117 12925	47kΩ 1% 0.063W 0603
3781	4822 117 12925	47kΩ 1% 0.063W 0603
3782	4822 117 12925	47kΩ 1% 0.063W 0603
3783	4822 117 12925	47kΩ 1% 0.063W 0603
3785	4822 117 13577	330Ω 1% 0805 1.25W
3786	4822 117 13577	330Ω 1% 0805 1.25W
3787	4822 117 13577	330Ω 1% 0805 1.25W
3788	5322 117 13034	1k5 1% 0.063W 0603
3789	5322 117 13043	220Ω 1% 0.063W 0603
3790	5322 117 13059	560Ω 1% 0.063W 0603
3791	5322 117 13049	470Ω 1% 0.063W 0603
3792	4822 051 30102	1kΩ 5% 0.062W
3793	4822 051 30222	2.2kΩ 5% 0.062W
3794	4822 117 12971	15Ω 5% 0.62W 0603
3795	4822 051 30339	33Ω 5% 0.062W
3800	5322 117 13058	150Ω 1% 0.063W 0603
3801	4822 051 30102	1kΩ 5% 0.062W
3802	5322 117 13058	150Ω 1% 0.063W 0603
3803	5322 117 13058	150Ω 1% 0.063W 0603
3804	4822 051 30102	1kΩ 5% 0.062W
3805	5322 117 13049	470Ω 1% 0.063W 0603
3806	5322 117 13049	470Ω 1% 0.063W 0603
3807	5322 117 13068	82Ω 1% 0.063W 0603
3808	5322 117 13057	820Ω 1% 0.063W 0603
3809	5322 117 13043	220Ω 1% 0.063W 0603
3810	4822 051 30391	390Ω 5% 0.062W
3811	4822 051 30759	75Ω 5% 0.062W
3812	4822 051 30759	75Ω 5% 0.062W
3813	4822 051 30391	390Ω 5% 0.062W
3814	4822 051 30759	75Ω 5% 0.062W
3815	4822 051 30759	75Ω 5% 0.062W
3816	4822 051 30391	390Ω 5% 0.062W
3817	4822 051 30759	75Ω 5% 0.062W
3818	4822 051 30759	75Ω 5% 0.062W
3819	4822 051 30759	75Ω 5% 0.062W
3820	4822 051 30759	75Ω 5% 0.062W
3821	4822 051 30759	75Ω 5% 0.062W
3822	4822 051 30759	75Ω 5% 0.062W
3823	4822 051 30759	75Ω 5% 0.062W
3824	4822 051 30759	75Ω 5% 0.062W
3825	5322 117 13058	150Ω 1% 0.063W 0603
3826	5322 117 13058	150Ω 1% 0.063W 0603
3827	5322 117 13058	150Ω 1% 0.063W 0603
9015	4822 051 30008	Jumper 0603
9302	4822 051 30008	Jumper 0603
9303	4822 051 30008	Jumper 0603
9304	4822 051 30008	Jumper 0603
9318	4822 051 30008	Jumper 0603
9322	4822 051 30008	Jumper 0603
9406	4822 051 30008	Jumper 0603
9407	4822 051 30008	Jumper 0603
9410	4822 051 30008	Jumper 0603
9413	4822 051 30008	Jumper 0603
9416	4822 051 30008	Jumper 0603
9417	4822 051 30008	Jumper 0603
9418	4822 051 30008	Jumper 0603
9419	4822 051 30008	Jumper 0603
9420	4822 051 30008	Jumper 0603
9520	4822 051 30008	Jumper 0603
9522	4822 051 30008	Jumper 0603
9603	4822 051 30008	Jumper 0603
9604	4822 051 30008	Jumper 0603
9607	4822 051 30008	Jumper 0603
9608	4822 051 30008	Jumper 0603
9609	4822 051 30008	Jumper 0603
9610	4822 051 30008	Jumper 0603
9642	4822 051 30008	Jumper 0603
9645	4822 051 30008	Jumper 0603
9652	4822 051 30008	Jumper 0603
9682	4822 051 30008	Jumper 0603
9683	4822 051 30008	Jumper 0603
9684	4822 051 30008	Jumper 0603
9685	4822 051 30008	Jumper 0603
9686	4822 051 30008	Jumper 0603
9687	4822 051 30008	Jumper 0603
9688	4822 051 30008	Jumper 0603
9689	4822 051 30008	Jumper 0603
9691	4822 051 30008	Jumper 0603
9692	4822 051 30008	Jumper 0603
9694	4822 051 30008	Jumper 0603
9702	4822 051 30008	Jumper 0603
9704	4822 051 30008	Jumper 0603
9713	4822 051 30008	Jumper 0603
9715	4822 051 30008	Jumper 0603
9716	4822 051 30008	Jumper 0603
9717	4822 051 30008	Jumper 0603
9718	4822 051 30008	Jumper 0603
9719	4822 051 30008	Jumper 0603
9722	4822 051 30008	Jumper 0603
9724	4822 051 30008	Jumper 0603
9725	4822 051 30008	Jumper 0603
9731	4822 051 30008	Jumper 0603
9733	4822 051 30008	Jumper 0603
9735	4822 051 30008	Jumper 0603
9736	4822 051 30008	Jumper 0603
9737	4822 051 30008	Jumper 0603
9738	4822 051 30008	Jumper 0603
9739	4822 051 30008	Jumper 0603
9740	4822 051 30008	Jumper 0603
9741	4822 117 12662	4 x 10Ω 5%
9744	4822 051 30008	Jumper 0603
9747	4822 051 30008	Jumper 0603
9754	4822 051 30008	Jumper 0603
9760	4822 051 30008	Jumper 0603
9761	4822 051 30008	Jumper 0603
9762	4822 051 30008	Jumper 0603
9763	4822 051 30008	Jumper 0603
9764	4822 051 30008	Jumper 0603
9765	4822 051 30008	Jumper 0603
9768	4822 051 30008	Jumper 0603
9769	4822 051 30008	Jumper 0603
9901	4822 051 30008	Jumper 0603
9902	4822 051 30008	Jumper 0603
9903	4822 051 30008	Jumper 0603
9904	4822 051 30008	Jumper 0603
9905	4822 051 30008	Jumper 0603
9906	4822 051 30008	Jumper 0603
9907	4822 051 30008	Jumper 0603
9908	4822 051 30008	Jumper 0603
9909	4822 051 30008	Jumper 0603
9919	4822 051 30008	Jumper 0603
9920	4822 051 30008	Jumper 0603
9921	4822 051 30008	Jumper 0603
9925	4822 051 30008	Jumper 0603

9927	4822 051 30008	Jumper 0603
9928	4822 051 30008	Jumper 0603
9929	4822 051 30008	Jumper 0603
9935	4822 051 30008	Jumper 0603
9937	4822 051 30008	Jumper 0603
9938	4822 051 30008	Jumper 0603
9939	4822 051 30008	Jumper 0603
9944	4822 051 30008	Jumper 0603
9945	4822 051 30008	Jumper 0603
9946	4822 051 30008	Jumper 0603
9947	4822 051 30008	Jumper 0603
9948	4822 051 30008	Jumper 0603
9949	4822 051 30008	Jumper 0603
9950	4822 051 30008	Jumper 0603
9951	4822 051 30008	Jumper 0603
9952	4822 051 30008	Jumper 0603
9953	4822 051 30008	Jumper 0603
9954	4822 051 30008	Jumper 0603

5301	4822 157 11876	6.8µH 10% 0805
5302	4822 157 11876	6.8µH 10% 0805
5401	3198 018 56880	6.8µH 10% 0603
5403	2422 549 44461	Coil trim. 40.4MHz 5CCE
5404	2422 535 95427	Bead 120Ω at 100MHz
5405	2422 535 95427	Bead 120Ω at 100MHz
5406	4822 157 10586	2.2µH 10% 0805
5408	2422 549 44983	Coil trim. 78MHz 5CCB SMD
5409	2422 549 42896	Bead 120Ω at 100MHz
5411	4822 157 11892	0.22µH 10% 0805
5415	4822 157 11716	Bead 30Ω at 100MHz
5416	4822 157 11716	Bead 30Ω at 100MHz
5651	2422 549 43769	Bead 30Ω at 100MHz
5652	2422 549 43769	Bead 30Ω at 100MHz
5653	2422 549 43769	Bead 30Ω at 100MHz
5654	4822 157 11716	Bead 30Ω at 100MHz
5655	4822 157 11828	22µH 20% 0805
5656	4822 157 11876	6.8µH 10% 0805
5657	4822 051 30008	Jumper 0603
5658	4822 051 30008	Jumper 0603
5659	4822 051 30008	Jumper 0603
5660	4822 051 30008	Jumper 0603
5661	4822 051 30008	Jumper 0603
5662	4822 051 30008	Jumper 0603
5663	4822 051 30008	Jumper 0603
5666	4822 051 30008	Jumper 0603
5667	4822 051 30008	Jumper 0603
5668	4822 051 30008	Jumper 0603
5671	4822 157 11716	Bead 30Ω at 100MHz
5672	4822 157 11716	Bead 30Ω at 100MHz
5700	4822 157 10586	2.2µH 10% 0805
5701	3198 018 31580	1.5µH 10% 0805
5702	3198 018 31580	1.5µH 10% 0805
5705	4822 156 21729	Bead 1kΩ at 100MHz
5706	4822 157 11716	Bead 30Ω at 100MHz
5710	4822 156 21729	Bead 1kΩ at 100MHz
5711	4822 156 21729	Bead 1kΩ at 100MHz
5712	4822 156 21729	Bead 1kΩ at 100MHz
5713	4822 157 11716	Bead 30Ω at 100MHz
5714	4822 157 71206	Bead 600Ω at 100MHz
5716	4822 156 21729	Bead 1kΩ at 100MHz
5717	4822 156 21729	Bead 1kΩ at 100MHz
5718	4822 157 11716	Bead 30Ω at 100MHz
5719	4822 156 21729	Bead 1kΩ at 100MHz
5721	4822 157 71206	Bead 600Ω at 100MHz
5722	4822 156 21729	Bead 1kΩ at 100MHz
5724	4822 156 21729	Bead 1kΩ at 100MHz
5725	4822 157 71206	Bead 600Ω at 100MHz
5726	4822 156 21729	Bead 1kΩ at 100MHz
5727	4822 156 21729	Bead 1kΩ at 100MHz
5728	4822 157 11716	Bead 30Ω at 100MHz
5729	4822 157 11716	Bead 30Ω at 100MHz
5731	4822 156 21729	Bead 1kΩ at 100MHz
5736	4822 157 11876	6.8µH 10% 0805
5737	4822 156 21729	Bead 1kΩ at 100MHz
5738	4822 157 11716	Bead 30Ω at 100MHz
5739	4822 157 10586	2.2µH 10% 0805
5740	4822 157 10586	2.2µH 10% 0805
5741	4822 157 10586	2.2µH 10% 0805
5742	4822 157 11716	Bead 30Ω at 100MHz
5743	4822 051 20229	22Ω 5% 0.1W
5743	4822 156 21729	Bead 1kΩ at 100MHz
5744	4822 157 11716	Bead 30Ω at 100MHz
5900	4822 157 11716	Bead 30Ω at 100MHz
5901	4822 157 11716	Bead 30Ω at 100MHz
5902	4822 157 11716	Bead 30Ω at 100MHz
5903	4822 157 11716	Bead 30Ω at 100MHz
5904	4822 157 11716	Bead 30Ω at 100MHz
5910	2422 549 43062	Bead 600Ω at 100MHz 0603
5911	2422 549 43062	Bead 600Ω at 100MHz 0603
5912	2422 549 43062	Bead 600Ω at 100MHz 0603
5913	2422 549 43062	Bead 600Ω at 100MHz 0603
5914	2422 549 43062	Bead 600Ω at 100MHz 0603
5915	2422 549 43062	Bead 600Ω at 100MHz 0603
5917	2422 549 43062	Bead 600Ω at 100MHz 0603
5918	2422 549 43062	Bead 600Ω at 100MHz 0603
5919	2422 549 43062	Bead 600Ω at 100MHz 0603
5920	2422 549 43062	Bead 600Ω at 100MHz 0603

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6001	4822 130 80622	BAT54
6002	4822 130 11397	BAS316
6003	4822 130 80622	BAT54
6004	4822 130 80622	BAT54
6005	4822 130 11422	PLVA2650A
6303	4822 130 11594	BZX284-C47
6304	4822 130 11397	BAS316
6306	3198 020 55680	BZX384-C5V6
6307	4822 130 11528	1PS76SB10
6309	4822 130 11397	BAS316
6310	4822 130 11416	PDZ6.8B
6311	9340 548 67115	PDZ22B
6312	4822 130 11397	BAS316
6313	9322 149 08685	BZM55-C22
6314	4822 130 11397	BAS316
6317	4822 130 11397	BAS316
6319	4822 130 11397	BAS316
6334	4822 130 11397	BAS316
6403	9340 552 30115	BA591
6652	9322 129 40685	BZM55-C10
6657	4822 130 10838	UDZ3.3B
6657	4822 130 11564	UDZ3.9B
6658	4822 130 11397	BAS316
6659	4822 130 80622	BAT54
6926	4822 130 10837	UDZS8.2B
6926	4822 130 11397	BAS316
6927	4822 130 11397	BAS316
6928	4822 130 11397	BAS316
6929	4822 130 11397	BAS316
6956	4822 130 10837	UDZS8.2B
6956	4822 130 11397	BAS316
6957	4822 130 10837	UDZS8.2B
6957	4822 130 11397	BAS316

7001	9352 684 81557	SAA5801H/015
7002	3198 010 42320	BC857BW
7003	3198 010 42310	BC847BW
7004	3198 010 42310	BC847BW
7005	9322 116 74668	LD1117D33
7006	3104 300 50441	MR27V3202F-NETN-9
7007	9322 157 20668	MSM51V18165F-60J
7008	3198 010 42310	BC847BW
7009	3198 010 42310	BC847BW
7010	3198 010 42320	BC857BW
7011	9322 156 81668	M24C32-WMN6TNKSA
7012	9322 156 72668	M29W400BT-90N1
7013	3198 010 42310	BC847BW
7014	3198 010 42320	BC857BW
7015	4822 209 73852	PMBT2369
7016	4822 209 73852	PMBT2369
7301	9352 681 65518	TDA9330N3
7303	3198 010 42320	BC857BW
7304	9340 310 30215	PDTC144ET
7307	9352 630 99118	TDA9181T
7310	3198 010 42310	BC847BW
7311	3198 010 42320	BC857BW
7312	9340 310 30215	PDTC144ET
7318	3198 010 42320	BC857BW
7320	3198 010 42310	BC847BW
7322	3198 010 42310	BC847BW
7323	9352 625 24518	TDA9321H/N2
7402	3198 010 42310	BC847BW
7403	5322 130 60159	BC846B
7404	3198 010 42310	BC847BW
7407	4822 130 60373	BC856B
7410	3198 010 42310	BC847BW
7411	5322 130 60159	BC846B
7651	9322 180 61702	MSP3411G-FH-B8-V3
7651	9322 183 28702	MSP3412G-FH-B3
7652	9351 869 40118	74HC4053PW
7653	9351 869 40118	74HC4053PW
7654	9340 425 20115	BC847BS
7656	9340 425 30115	BC847BPN
7663	9340 425 30115	BC847BPN
7664	9340 425 30115	BC847BPN
7665	9340 425 30115	BC847BPN
7666	9340 425 30115	BC847BPN
7667	3198 010 42310	BC847BW
7668	3198 010 42320	BC857BW
7674	3198 010 42310	BC847BW
7675	9340 425 20115	BC847BS
7677	3198 010 42310	BC847BW
7678	9340 425 20115	BC847BS
7679	9340 425 20115	BC847BS
7680	3198 010 42310	BC847BW
7681	9322 060 73668	MC33178DR2
7682	5322 130 60159	BC846B
7703	4822 209 73852	PMBT2369
7706	9322 142 88668	LF25CDT
7707	5322 130 60159	BC846B
7708	5322 130 60159	BC846B
7709	5322 130 60159	BC846B
7710	5322 130 60159	BC846B
7711	2422 486 80938	Socket 32p f
7712	9351 870 00118	74HC573PW
7713	9352 688 09557	SAA4978H/V204 Y
7714	9965 000 02179	MS81V04160-25TB
7715	4822 209 73852	PMBT2369
7717	9352 498 00518	SAA4955TJ/V1
7718	9352 695 58557	SAA4993H/V1
7719	9352 498 00518	SAA4955TJ/V1
7722	9965 000 02179	MS81V04160-25TB
7723	9965 000 02179	MS81V04160-25TB
7724	9322 188 08702	T8F24EF-0002 EAGLE
7725	4822 209 73852	PMBT2369
7726	4822 209 17398	LD1117DT33
7727	9322 170 14668	LF15ABDT
7728	5322 130 42718	BFS20
7729	5322 130 42718	BFS20
7730	5322 130 42718	BFS20
7731	5322 130 42718	BFS20
7732	5322 130 42718	BFS20
7733	5322 130 42718	BFS20
7999	3104 317 43881	Software (check Prod.Surv.)

DW Panel [C]

Various

0200	4822 267 10734	Connector 5p m
0201	4822 267 10557	Connector 10p
0205	2422 025 16587	Connector FFC 10p f
0207	4822 267 10565	Connector 4p
0236	4822 267 10735	Connector 3p m
0237	4822 267 10676	Connector 1P
0272	2422 025 16382	Connector 3p m
1002	3139 188 01661	VIF/DEMOD. EUROPE1
1327	4822 242 10694	Resonator 12MHz
1333	2422 549 44311	Filter 5M8/6M5 TPWCC16B
1352	2422 549 44223	Filter SAW OFWK7260M

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2261	4822 124 40207	100µF 20% 25V
2265	4822 124 40207	100µF 20% 25V
2269	4822 126 13751	47nF 10% 63V
2270	4822 126 13751	47nF 10% 63V
2271	4822 126 13751	47nF 10% 63V
2272	5322 126 11583	10nF 10% 50V 0603
2301	3198 017 41050	1µF 10V 0603
2302	5322 126 10184	820pF 5% 50V 3
2303	5322 126 10223	4.7nF 10% 63V
2306	5322 126 11583	10nF 10% 50V 0603
2309	4822 126 14585	100nF 10% 50V
2312	4822 122 33177	10nF 20% 50V
2313	4822 126 14585	100nF 10% 50V
2314	4822 126 14585	100nF 10% 50V
2316	2238 916 15641	22nF 10% 25V 0603
2317	4822 126 13879	220nF 20% 16V
2319	2238 586 59812	100nF 20-80% 50V 0603
2321	5322 126 10465	3.9nF 10% 50V
2322	4822 124 40248	10µF 20% 63V
2324	4822 126 14585	100nF 10% 50V
2327	2222 867 15339	33pF 5% 50V 0603
2328	2222 867 15339	33pF 5% 50V 0603
2331	4822 124 22652	2.2µF 20% 50V
2332	4822 126 14076	220nF 25V. 20%
2333	2238 586 59812	100nF 20-80% 50V 0603
2334	5322 122 32654	22nF 10% 63V
2335	4822 126 14043	1µF 20% 16V
2336	5322 126 10184	820pF 5% 50V 3
2338	4822 122 33127	2.2nF 10% 63V
2342	4822 126 13692	47pF 1% 63V
2345	4822 126 13692	47pF 1% 63V
2348	4822 126 11785	47pF 5% 50V 0603
2349	4822 122 33177	10nF 20% 50V
2350	4822 124 40248	10µF 20% 63V
2351	4822 122 33177	10nF 20% 50V
2354	4822 126 13482	470nF 80/20% 16V
2355	3198 017 41050	1µF 10V 0603
2356	4822 126 13482	470nF 80/20% 16V
2357	2238 861 18109	10pF 1% 50V

2372	5322 126 10223	4.7nF 10% 63V
2373	4822 124 21913	1µF 20% 63V
2374	5322 122 32654	22nF 10% 63V
2375	5322 126 10511	1nF 5% 50V
2376	5322 126 10511	1nF 5% 50V
2377	5322 126 10511	1nF 5% 50V
2380	4822 124 40248	10µF 20% 63V
2385	4822 126 13881	470pF 5% 50V
2386	4822 126 13881	470pF 5% 50V
2390	4822 126 11785	47pF 5% 50V 0603
2391	2020 552 94427	100pF 5% 50v 0603
2392	4822 126 14225	56pF 5% 50V 0603
2393	2020 552 94427	100pF 5% 50v 0603
2401	3198 017 41050	1µF 10V 0603
2402	3198 017 41050	1µF 10V 0603
2403	3198 017 41050	1µF 10V 0603
2404	3198 017 41050	1µF 10V 0603
2405	3198 017 41050	1µF 10V 0603
2411	4822 124 40248	10µF 20% 63V
2412	4822 126 13879	220nF 20% 16V
2415	4822 126 13879	220nF 20% 16V
2431	2238 586 59812	100nF 20-80% 50V 0603
2432	2238 586 59812	100nF 20-80% 50V 0603
2434	2238 586 59812	100nF 20-80% 50V 0603
2436	4822 124 40207	100µF 20% 25V
2438	3198 017 34730	47nF 16V 0603
2439	3198 017 34730	47nF 16V 0603
2440	3198 017 34730	47nF 16V 0603
2811	2238 586 59812	100nF 20-80% 50V 0603
2811	3198 023 41040	100nF 10% 100V 0603
2812	2238 586 59812	100nF 20-80% 50V 0603
2812	3198 023 41040	100nF 10% 100V 0603
2813	3198 016 31510	150pF 10% 50V 0603
2813	4822 122 33753	150pF 5% 50V
2814	3198 023 21040	100nF 10% 25V 0805
2814	4822 126 14585	100nF 10% 50V
2816	3198 025 51090	10µF 20% 50V
2816	4822 124 40248	10µF 20% 63V
2817	3198 023 21040	100nF 10% 25V 0805
2817	4822 126 14585	100nF 10% 50V
2818	3198 023 21040	100nF 10% 25V 0805
2818	4822 126 14585	100nF 10% 50V
2819	3198 023 21040	100nF 10% 25V 0805
2819	4822 126 14585	100nF 10% 50V
2821	3198 025 51090	10µF 20% 50V
2821	4822 124 40248	10µF 20% 63V
2822	3198 023 21040	100nF 10% 25V 0805
2822	4822 126 14585	100nF 10% 50V
2823	2238 586 59812	100nF 20-80% 50V 0603
2823	3198 023 41040	100nF 10% 100V 0603
2824	2238 586 59812	100nF 20-80% 50V 0603
2824	3198 023 41040	100nF 10% 100V 0603
2825	3198 016 01510	150pF 10% 50V 0805
2825	5322 122 33538	150pF 2% 63V
2826	3198 023 21040	100nF 10% 25V 0805
2826	4822 126 14585	100nF 10% 50V
2827	3198 025 31010	100µF 20% 25V
2827	4822 124 40207	100µF 20% 25V
2828	2238 586 59812	100nF 20-80% 50V 0603
2828	3198 023 41040	100nF 10% 100V 0603
2829	3198 023 21040	100nF 10% 25V 0805
2829	4822 126 14585	100nF 10% 50V
2831	3198 017 21050	1uF 5% 16V 0805
2831	4822 126 14043	1µF 20% 16V
2832	3198 017 21050	1uF 5% 16V 0805
2832	4822 126 14043	1µF 20% 16V
2833	2238 586 59812	100nF 20-80% 50V 0603
2833	3198 023 41040	100nF 10% 100V 0603
2834	3198 025 51090	10µF 20% 50V
2834	4822 124 40248	10µF 20% 63V
2836	2238 586 59812	100nF 20-80% 50V 0603
2836	3198 023 41040	100nF 10% 100V 0603
2837	3198 023 21040	100nF 10% 25V 0805
2837	4822 126 14585	100nF 10% 50V
2838	3198 025 02210	220µF 20% 6.3V
2838	4822 124 11912	220µF 20% 6.3V
2839	3198 023 21040	100nF 10% 25V 0805
2839	4822 126 14585	100nF 10% 50V
2841	3198 025 51090	10µF 20% 50V
2841	4822 124 40248	10µF 20% 63V
2842	3198 016 31510	150pF 10% 50V 0603
2842	4822 122 33753	150pF 5% 50V
2843	2238 586 59812	100nF 20-80% 50V 0603
2843	3198 023 41040	100nF 10% 100V 0603
2844	2238 586 59812	100nF 20-80% 50V 0603
2844	3198 023 41040	100nF 10% 100V 0603
2846	3198 023 21040	100nF 10% 25V 0805
2846	4822 126 14585	100nF 10% 50V
2847	3198 016 01510	150pF 10% 50V 0805
2847	5322 122 33538	150pF 2% 63V
2848	3198 023 21040	100nF 10% 25V 0805
2848	4822 126 14585	100nF 10% 50V
2849	3198 023 21040	100nF 10% 25V 0805
2849	4822 126 14585	100nF 10% 50V
2851	3198 025 51090	10µF 20% 50V
2851	4822 124 40248	10µF 20% 63V
2852	3198 017 01040	100nF 10% 16V 0805
2852	4822 126 14585	100nF 10% 50V
2853	3198 025 51090	10µF 20% 50V
2853	4822 124 40248	10µF 20% 63V
2854	3198 023 21040	100nF 10% 25V 0805
2854	4822 126 14585	100nF 10% 50V
2856	3198 016 01510	150pF 10% 50V 0805
2856	5322 122 33538	150pF 2% 63V
2857	3198 016 31510	150pF 10% 50V 0603
2857	4822 122 33753	150pF 5% 50V
2861	3198 025 51090	10µF 20% 50V
2861	4822 124 40248	10µF 20% 63V
2862	2238 586 59812	100nF 20-80% 50V 0603
2862	3198 023 41040	100nF 10% 100V 0603
2863	3198 025 52290	22µF 20% 50V
2863	4822 124 81151	22µF 50V
2864	3198 017 34730	47nF 16V 0603
2866	3198 017 34730	47nF 16V 0603
2867	3198 017 41050	1µF 10V 0603
2868	2238 586 59812	100nF 20-80% 50V 0603
2868	3198 023 41040	100nF 10% 100V 0603
2869	3198 025 31010	100µF 20% 25V
2869	4822 124 40207	100µF 20% 25V
2871	3198 017 41050	1µF 10V 0603
2872	3198 017 34730	47nF 16V 0603
2873	3198 017 34730	47nF 16V 0603
2874	3198 021 90030	Jumper 0603
2874	4822 051 30008	Jumper 0603
2876	3198 021 90030	Jumper 0603
2876	4822 051 30008	Jumper 0603
2877	3198 021 90030	Jumper 0603
2877	4822 051 30008	Jumper 0603
2878	3198 023 21040	100nF 10% 25V 0805
2878	4822 126 14585	100nF 10% 50V
2879	2238 586 59812	100nF 20-80% 50V 0603
2879	3198 023 41040	100nF 10% 100V 0603
2891	3198 017 01020	1nF 10% 50V 0805
2891	5322 122 31647	1nF 10% 63V
2892	3198 016 34790	47pF 10% 50V 0603
2892	4822 126 11785	47pF 5% 50V 0603
2893	3198 016 34790	47pF 10% 50V 0603
2893	4822 126 11785	47pF 5% 50V 0603
2894	3198 016 34790	47pF 10% 50V 0603
2894	4822 126 11785	47pF 5% 50V 0603
2895	3198 016 04790	47pf 10% 50V 0805
2895	4822 126 13692	47pF 1% 63V
2896	3198 016 04790	47pf 10% 50V 0805
2896	4822 126 13692	47pF 1% 63V
2897	3198 016 34790	47pF 10% 50V 0603
2897	4822 126 11785	47pF 5% 50V 0603
2898	3198 025 31010	100µF 20% 25V
2898	4822 124 40207	100µF 20% 25V
2899	3198 025 31010	100µF 20% 25V
2899	4822 124 40207	100µF 20% 25V

3263	4822 117 11449	2.2kΩ 5% 0.1W 0805
3264	4822 117 10833	10kΩ 1% 0.1W
3267	4822 051 20109	10Ω 5% 0.1W
3268	4822 051 20109	10Ω 5% 0.1W
3270	4822 051 20008	Jumper 0805
3301	4822 051 30102	1kΩ 5% 0.062W
3305	4822 117 12955	2.7kΩ 1% 0.1W 0805
3311	4822 051 20273	27kΩ 5% 0.1W
3312	4822 117 10833	10kΩ 1% 0.1W
3315	4822 117 12708	39kΩ 1% 0.1W 0805 RC12G
3316	4822 051 30681	680Ω 5% 0.062W
3318	4822 051 30101	100Ω 5% 0.062W
3321	4822 051 30103	10kΩ 5% 0.062W
3322	4822 117 12902	8.2kΩ 1% 0.063W 0603
3324	4822 051 20391	390Ω 5% 0.1W
3326	5322 117 12487	1k 1% 0.125W
3327	4822 051 30561	560Ω 5% 0.062W
3329	4822 117 11373	100Ω 1% 0805
3330	4822 117 11373	100Ω 1% 0805
3333	4822 051 30681	680Ω 5% 0.062W
3334	4822 051 30471	470Ω 5% 0.062W
3335	4822 051 20121	120Ω 5% 0,1W
3338	4822 051 20008	Jumper 0805
3339	4822 117 10833	10kΩ 1% 0.1W
3340	4822 051 30222	2.2kΩ 5% 0.062W
3341	4822 051 20479	47Ω 5% 0.1W
3344	4822 051 20479	47Ω 5% 0.1W
3346	4822 051 30561	560Ω 5% 0.062W
3348	4822 051 30008	Jumper 0603
3352	4822 051 30222	2.2kΩ 5% 0.062W
3353	4822 051 30682	6.8kΩ 5% 0.062W
3354	4822 051 30222	2.2kΩ 5% 0.062W
3355	4822 051 30273	27kΩ 5% 0.062W
3356	4822 051 30183	18kΩ 5% 0.062W
3370	4822 117 11373	100Ω 1% 0805
3371	4822 116 83933	15k 1% 0.1W
3372	4822 051 30008	Jumper 0603
3374	4822 051 30472	4.7kΩ 5% 0.062W
3381	4822 117 11373	100Ω 1% 0805
3382	4822 117 11373	100Ω 1% 0805
3383	4822 117 11373	100Ω 1% 0805
3384	4822 051 30103	10kΩ 5% 0.062W
3385	4822 051 30472	4.7kΩ 5% 0.062W
3386	4822 051 30103	10kΩ 5% 0.062W
3387	4822 051 30393	39kΩ 5% 0.062W
3388	4822 051 30103	10kΩ 5% 0.062W
3389	4822 051 30472	4.7kΩ 5% 0.062W
3390	4822 051 30471	470Ω 5% 0.062W
3401	4822 051 30101	100Ω 5% 0.062W
3402	4822 051 30101	100Ω 5% 0.062W
3403	4822 117 11373	100Ω 1% 0805
3404	4822 051 30101	100Ω 5% 0.062W
3405	4822 117 11373	100Ω 1% 0805
3411	4822 117 12925	47kΩ 1% 0.063W 0603
3412	4822 117 12925	47kΩ 1% 0.063W 0603
3413	4822 051 30102	1kΩ 5% 0.062W
3414	4822 117 12925	47kΩ 1% 0.063W 0603
3415	4822 117 12925	47kΩ 1% 0.063W 0603
3416	4822 051 30102	1kΩ 5% 0.062W
3417	4822 117 11373	100Ω 1% 0805
3418	4822 117 11373	100Ω 1% 0805
3423	4822 051 20561	560Ω 5% 0.1W
3424	4822 117 11448	180Ω 1% 0.1W
3431	4822 051 30101	100Ω 5% 0.062W
3432	4822 051 30101	100Ω 5% 0.062W
3437	4822 051 20472	4.7kΩ 5% 0.1W
3438	4822 051 30471	470Ω 5% 0.062W
3439	4822 051 20008	Jumper 0805
3453	4822 051 30472	4.7kΩ 5% 0.062W
3456	4822 051 30472	4.7kΩ 5% 0.062W
3457	4822 051 30472	4.7kΩ 5% 0.062W
3460	4822 051 30472	4.7kΩ 5% 0.062W
3461	4822 051 30472	4.7kΩ 5% 0.062W
3462	4822 052 10228	2Ω2 5% 0.33W
3801	3198 021 52210	220Ω 5% 0805
3801	4822 117 11503	220Ω 1% 0.1W
3802	3198 021 56810	680K 5% 0805
3802	4822 117 10361	680Ω 1% 0.1W
3803	3198 021 52210	220Ω 5% 0805
3803	4822 117 11503	220Ω 1% 0.1W
3804	3198 021 36810	680Ω 5% 0.062W
3804	4822 051 30681	680Ω 5% 0.062W
3805	3198 021 32210	220Ω 5% 0603
3805	4822 051 30221	220Ω 5% 0.062W
3806	3198 021 36810	680Ω 5% 0.062W
3806	4822 051 30681	680Ω 5% 0.062W
3807	3198 021 32210	220Ω 5% 0603
3807	4822 051 30221	220Ω 5% 0.062W
3808	3198 021 56810	680K 5% 0805
3808	4822 117 10361	680Ω 1% 0.1W
3809	3198 021 32210	220Ω 5% 0603
3809	4822 051 30221	220Ω 5% 0.062W
3810	3198 021 36810	680Ω 5% 0.062W
3810	4822 051 30681	680Ω 5% 0.062W
3811	3198 021 52210	220Ω 5% 0805
3811	4822 117 11503	220Ω 1% 0.1W
3812	3198 021 34790	47Ω 5% 0603
3812	4822 051 30479	47Ω 5% 0.062W
3813	3198 021 31510	150Ω 5% 0603
3813	4822 051 30151	150Ω 5% 0.062W
3814	3198 021 32230	22K 5% 0603
3814	4822 051 30223	22kΩ 5% 0.062W
3816	3198 021 34790	47Ω 5% 0603
3816	4822 051 30479	47Ω 5% 0.062W
3817	3198 021 31510	150Ω 5% 0603
3817	4822 051 30151	150Ω 5% 0.062W
3818	3198 021 34790	47Ω 5% 0603
3818	4822 051 30479	47Ω 5% 0.062W
3821	3198 021 31510	150Ω 5% 0603
3821	4822 051 30151	150Ω 5% 0.062W
3822	3198 021 34720	4.7kΩ 5% 0603
3822	4822 051 30472	4.7kΩ 5% 0.062W
3823	3198 021 56810	680K 5% 0805
3823	4822 117 10361	680Ω 1% 0.1W
3824	3198 021 90030	Jumper 0603
3824	4822 051 30008	Jumper 0603
3825	3198 021 32210	220Ω 5% 0603
3825	4822 051 30221	220Ω 5% 0.062W
3826	3198 021 33320	3.3kΩ 5% 0603
3826	4822 051 30332	3.3kΩ 5% 0.062W
3827	3198 021 31820	1.8kΩ 5% 0603
3827	4822 117 12903	1.8kΩ 1% 0.063W 0603
3828	3198 021 32210	220Ω 5% 0603
3828	4822 051 30221	220Ω 5% 0.062W
3829	3198 021 32210	220Ω 5% 0603
3829	4822 051 30221	220Ω 5% 0.062W
3831	3198 021 32210	220Ω 5% 0603
3831	4822 051 30221	220Ω 5% 0.062W

3832	3198 021 33930	39KΩ 5% 0605
3832	4822 051 30393	39kΩ 5% 0.062W
3833	3198 021 33320	3.3kΩ 5% 0603
3833	4822 051 30332	3.3kΩ 5% 0.062W
3834	3198 021 31820	1.8kΩ 5% 0603
3834	4822 117 12903	1.8kΩ 1% 0.063W 0603
3836	3198 021 33320	3.3kΩ 5% 0603
3836	4822 051 30332	3.3kΩ 5% 0.062W
3837	3198 021 31820	1.8kΩ 5% 0603
3837	4822 117 12903	1.8kΩ 1% 0.063W 0603
3838	3198 021 33930	39KΩ 5% 0605
3838	4822 051 30393	39kΩ 5% 0.062W
3839	3198 021 52210	220Ω 5% 0805
3839	4822 117 11503	220Ω 1% 0.1W
3846	3198 021 52210	220Ω 5% 0805
3846	4822 117 11503	220Ω 1% 0.1W
3854	3198 021 31010	100Ω 5% 0603
3854	4822 051 30101	100Ω 5% 0.062W
3856	3198 021 55620	5.6KΩ 5% 0805
3856	4822 051 20562	5.6kΩ 5% 0.1W 0805
3857	3198 021 51030	10K 5% 0805
3857	4822 117 10833	10kΩ 1% 0.1W
3858	3198 021 55620	5.6KΩ 5% 0805
3858	4822 051 20562	5.6kΩ 5% 0.1W 0805
3862	2306 204 03108	1R Fuse NFR25
3862	4822 052 10108	1Ω 5% 0.33W
3863	2306 204 03108	1R Fuse NFR25
3863	4822 052 10108	1Ω 5% 0.33W
3865	3198 021 33320	3.3kΩ 5% 0603
3865	4822 051 30332	3.3kΩ 5% 0.062W
3866	3198 021 31020	1kΩ 5% 0603
3866	4822 051 30102	1kΩ 5% 0.062W
3868	3198 021 31820	1.8kΩ 5% 0603
3868	4822 117 12903	1.8kΩ 1% 0.063W 0603
3869	3198 021 33320	3.3kΩ 5% 0603
3869	4822 051 30332	3.3kΩ 5% 0.062W
3871	3198 021 32220	2.2k 5% 0603
3871	4822 051 30222	2.2kΩ 5% 0.062W
3872	3198 021 34710	470Ω 5% 0603
3872	4822 051 30471	470Ω 5% 0.062W
3873	3198 021 31520	1.5KΩ 5% 0603
3873	4822 051 30152	1.5kΩ 5% 0.062W
3874	3198 021 31520	1.5KΩ 5% 0603
3874	4822 051 30152	1.5kΩ 5% 0.062W
3876	3198 021 54720	4.7K 5% 0805
3876	4822 051 20472	4.7kΩ 5% 0.1W
3878	3198 021 31020	1kΩ 5% 0603
3878	4822 051 30102	1kΩ 5% 0.062W
3879	3198 021 32210	220Ω 5% 0603
3879	4822 051 30221	220Ω 5% 0.062W
3881	3198 021 90030	Jumper 0603
3881	4822 051 30008	Jumper 0603
3884	3198 021 56810	680K 5% 0805
3884	4822 117 10361	680Ω 1% 0.1W
3886	3198 021 90030	Jumper 0603
3886	4822 051 30008	Jumper 0603
3887	3198 021 90030	Jumper 0603
3887	4822 051 30008	Jumper 0603
3888	3198 021 90030	Jumper 0603
3888	4822 051 30008	Jumper 0603
3889	3198 021 33390	33Ω 5% 0603
3889	4822 051 30339	33Ω 5% 0.062W
3890	3198 021 33390	33Ω 5% 0603
3890	4822 051 30339	33Ω 5% 0.062W
3891	3198 021 33390	33Ω 5% 0603
3891	4822 051 30339	33Ω 5% 0.062W
3892	3198 021 54720	4.7K 5% 0805
3892	4822 051 20472	4.7kΩ 5% 0.1W
3893	3198 021 31520	1.5KΩ 5% 0603
3893	4822 051 30152	1.5kΩ 5% 0.062W
3894	3198 021 32220	2.2k 5% 0603
3894	4822 051 30222	2.2kΩ 5% 0.062W
3895	3198 021 34710	470Ω 5% 0603
3895	4822 051 30471	470Ω 5% 0.062W
3896	3198 021 31520	1.5KΩ 5% 0603
3896	4822 051 30152	1.5kΩ 5% 0.062W
3897	3198 021 32210	220Ω 5% 0603
3897	4822 051 30221	220Ω 5% 0.062W
3898	3198 021 31020	1kΩ 5% 0603
3898	4822 051 30102	1kΩ 5% 0.062W
4304	4822 051 30008	Jumper 0603
4309	4822 051 30008	Jumper 0603
4310	4822 051 30008	Jumper 0603
4311	4822 051 30008	Jumper 0603
4312	4822 051 30008	Jumper 0603
4313	4822 051 20008	Jumper 0805
4314	4822 051 20008	Jumper 0805
4434	4822 051 20008	Jumper 0805
4437	4822 051 20008	Jumper 0805
4438	4822 051 20008	Jumper 0805
4827	3198 021 90030	Jumper 0603
4827	4822 051 30008	Jumper 0603
4828	3198 021 90030	Jumper 0603
4828	4822 051 30008	Jumper 0603
4831	3198 021 32210	220Ω 5% 0603
4831	4822 051 30221	220Ω 5% 0.062W

5261	4822 157 11299	10µH 5%
5309	4822 157 71334	0.68µH
5332	4822 157 71334	0.68µH
5333	4822 157 71334	0.68µH
5334	4822 157 71334	0.68µH
5349	4822 157 71694	0.82µH 10%
5350	3198 018 61590	15µH 5% 1008
5351	3198 018 61590	15µH 5% 1008
5352	4822 157 71334	0.68µH
5401	2422 535 94637	4.7µH 20% LHL08
5816	3198 018 90070	Bead 120Ω 100MHz
5816	4822 157 11506	Bead 120Ω at 100MHz
5818	3198 018 90070	Bead 120Ω 100MHz
5818	4822 157 11506	Bead 120Ω at 100MHz
5827	3198 018 90070	Bead 120Ω 100MHz
5827	4822 157 11506	Bead 120Ω at 100MHz
5834	3198 018 90070	Bead 120Ω 100MHz
5834	4822 157 11506	Bead 120Ω at 100MHz
5839	3198 018 90070	Bead 120Ω 100MHz
5839	4822 157 11506	Bead 120Ω at 100MHz
5848	3198 018 90070	Bead 120Ω 100MHz
5848	4822 157 11506	Bead 120Ω at 100MHz
5849	3198 018 90070	Bead 120Ω 100MHz
5849	4822 157 11506	Bead 120Ω at 100MHz
5851	3198 018 90070	Bead 120Ω 100MHz
5851	4822 157 11506	Bead 120Ω at 100MHz
5853	3198 018 90070	Bead 120Ω 100MHz
5853	4822 157 11506	Bead 120Ω at 100MHz

6301	4822 130 11525	1SS356
6412	4822 130 11397	BAS316
6415	4822 130 11397	BAS316
6801	3198 020 53980	BZX384-C2V9
6801	4822 130 11564	UDZ3.9B
6802	3198 020 53980	BZX384-C2V9
6802	4822 130 11564	UDZ3.9B
6803	3198 010 10630	BAS316
6803	4822 130 11397	BAS316

7201	2422 542 90104	TUNERTEDE9X217AALPS
7301	9352 638 73557	TDA8889H/N1
7305	3198 010 42310	BC847BW
7307	3198 010 42310	BC847BW
7331	3198 010 42320	BC857BW
7332	3198 010 42310	BC847BW
7385	3198 010 42310	BC847BW
7386	3198 010 42310	BC847BW
7401	5322 209 14481	HEF4053BT
7402	5322 209 14481	HEF4053BT
7403	4822 209 17345	M62320FP
7411	3198 010 42310	BC847BW
7412	3198 010 42310	BC847BW
7421	3198 010 42320	BC857BW
7438	3198 010 42310	BC847BW
7801	9352 639 83557	SAB9083H/N4
7802	9322 123 54687	LD1117V33
7803	4822 209 12776	TDA8601T/C1
7803	9351 538 90518	TDA8601T/C1
7804	9352 457 50115	74HC1G32GW
7805	3198 010 42310	BC847BW
7806	3198 010 42310	BC847BW
7807	3198 010 42310	BC847BW
7808	3198 010 42310	BC847BW
7809	3198 010 42310	BC847BW
7810	3198 010 42310	BC847BW
7824	3198 010 42310	BC847BW
7828	3198 010 42310	BC847BW
7832	3198 010 42310	BC847BW
7871	3198 010 42310	BC847BW
7874	3198 010 42310	BC847BW
7876	3198 010 42320	BC857BW
7891	3198 010 42310	BC847BW
7892	3198 010 42310	BC847BW
7893	3198 010 42310	BC847BW
7894	3198 010 42320	BC857BW
7895	3198 010 42310	BC847BW

Mainsswitch Panel [E]

Various

0040	3104 307 97621	Mainsknob FL11
0040	3139 177 55091	Knob Frost Silver
0046	3104 304 23471	Bracket mains unit FL11
0046	3139 124 32521	Front Interface
0151	4822 256 91766	LED holder
0160	4822 256 91766	LED holder
0170	4822 256 10562	Photo diode holder
0201	2422 025 16268	Connector 2p m
0202	2422 025 16268	Connector 2p m
0241	2422 025 06354	Connector 9p m
0248	4822 267 10567	Connector 4P
1031	2422 128 02972	Mains switch
1040	9322 155 82667	IR receiver TSOP2236
1050	9322 155 82667	IR receiver TSOP2236
1051	2422 128 02972	Mains switch
1060	3104 328 18291	MS assy PV2 mains
1060	3104 328 27321	MS Panel
8202	3104 311 02571	Cable 2p3/680/2p3
8202	4822 320 12513	Wiring VH 2P480VH
8946	3104 311 02911	Cable 9P/680/9P
8946	3104 311 04981	Cable 9p/820/9p

2040	4822 124 41584	100µF 20% 10V
2051	4822 124 41584	100µF 20% 10V
2060	4822 124 81151	22µF 50V
2070	3198 017 44740	470nF 10V 0603
2070	4822 126 13879	220nF 20% 16V
2071	4822 124 40248	10µF 20% 63V
2080	2238 586 59812	100nF 20-80% 50V 0603

3030	4822 053 21335	3M3 5% 0.5W
3037	4822 053 21335	3M3 5% 0.5W
3040	4822 051 30331	330Ω 5% 0.062W
3040	4822 117 13577	330Ω 1% 0805 1.25W
3041	4822 051 30103	10kΩ 5% 0.062W
3042	4822 051 30682	6.8kΩ 5% 0.062W
3043	4822 051 30101	100Ω 5% 0.062W
3043	4822 051 30471	470Ω 5% 0.062W
3050	4822 117 13577	330Ω 1% 0805 1.25W
3051	4822 051 30471	470Ω 5% 0.062W
3052	4822 051 30331	330Ω 5% 0.062W
3053	4822 051 30561	560Ω 5% 0.062W
3054	4822 051 20471	470Ω 5% 0.1W
3057	4822 053 21335	3M3 5% 0.5W
3060	4822 051 30103	10kΩ 5% 0.062W
3061	4822 117 13577	330Ω 1% 0805 1.25W
3062	4822 117 11373	100Ω 1% 0805
3063	4822 051 30103	10kΩ 5% 0.062W
3064	4822 117 11373	100Ω 1% 0805
3066	4822 053 21335	3M3 5% 0.5W
3070	4822 051 30155	1M50 5% 0,062W
3070	4822 051 30334	330kΩ 5% 0.062W
3070	4822 051 30475	4.7MΩ 5% 0,062W 0603
3071	4822 051 30155	1M50 5% 0,062W
3071	4822 051 30334	330kΩ 5% 0.062W
3071	4822 051 30475	4.7MΩ 5% 0,062W 0603
3072	4822 051 30102	1kΩ 5% 0.062W
3073	4822 051 30103	10kΩ 5% 0.062W
3073	4822 051 30332	3.3kΩ 5% 0.062W
3074	4822 051 30103	10kΩ 5% 0.062W
3074	4822 051 30472	4.7kΩ 5% 0.062W
3075	4822 051 30472	4.7kΩ 5% 0.062W
3076	4822 051 30682	6.8kΩ 5% 0.062W
3077	4822 051 30103	10kΩ 5% 0.062W
3078	4822 051 30102	1kΩ 5% 0.062W
3078	4822 051 30332	3.3kΩ 5% 0.062W
3079	4822 051 30332	3.3kΩ 5% 0.062W
3080	4822 051 30103	10kΩ 5% 0.062W
3081	4822 051 30222	2.2kΩ 5% 0.062W
3082	4822 051 30008	Jumper 0603
3998	4822 050 11002	1k 1% 0.4W
3998	4822 116 52213	180Ω 5% 0.5W
3999	4822 051 30222	2.2kΩ 5% 0.062W
4000	4822 051 30008	Jumper 0603
4002	4822 051 30008	Jumper 0603
4007	4822 051 30008	Jumper 0603
4008	4822 051 30008	Jumper 0603
4009	4822 051 30008	Jumper 0603
4010	4822 051 30008	Jumper 0603
4011	4822 051 30008	Jumper 0603
9000	4822 051 30008	Jumper 0603
9001	4822 051 20008	Jumper 0805
9004	4822 051 20008	Jumper 0805

9005	4822 051 20008	Jumper 0805
9005	4822 051 30008	Jumper 0603
9006	4822 051 20008	Jumper 0805
9006	4822 051 30008	Jumper 0603
9007	4822 051 20008	Jumper 0805
9007	4822 051 30008	Jumper 0603
9008	4822 051 20008	Jumper 0805
9041	4822 051 30008	Jumper 0603
9042	4822 051 30008	Jumper 0603
9050	4822 051 30008	Jumper 0603
9051	4822 051 30008	Jumper 0603
9052	4822 051 30008	Jumper 0603
9053	4822 051 30008	Jumper 0603
9055	4822 051 30008	Jumper 0603

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6050	5322 130 83903	TLRC114
6051	4822 209 72895	TLUV5320
6060	9322 191 72682	VS LTL353UBJ
6061	4822 130 30621	1N4148
6070	4822 130 11595	BPW46

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7060	5322 130 60159	BC846B
7061	5322 130 60159	BC846B
7070	4822 209 70672	LM358N SEL.
7070	5322 209 82941	LM358D
7080	4822 130 40981	BC337-25
7081	5322 130 60159	BC846B

CRT Panel [F]

Various

0032	4822 492 70788	IC clamp
0034	4822 492 70788	IC clamp
0036	4822 492 70788	IC clamp
1298	2422 500 80063	Connector CRT 10p f
1298	2422 500 80078	Socket CRT 11P f v
1424	2422 025 11244	Connector 7p m
1434	4822 267 10973	Connector 1P m
1483	2422 025 16382	Connector 3p m
1483	4822 267 10735	Connector 3p m
1940	2422 025 12485	Connector 11p m
8483	3104 311 03111	Cable 3P/340/3P ferrite

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2300	2020 012 93596	22µF 20% 250V
2301	4822 124 40196	220µF 20% 16V
2302	4822 126 13956	68pF 5% 63V 0603
2304	4822 121 41856	22nF 5% 250V
2306	2238 586 59812	100nF 20-80% 50V 0603
2307	4822 121 41856	22nF 5% 250V
2309	3198 017 42230	22nF 50V
2312	4822 126 14585	100nF 10% 50V
2313	4822 124 11565	10?F 20% 250V
2313	4822 124 12373	47µF 20% 250V
2315	4822 126 13883	220pF 5% 50V
2316	4822 121 40518	100nF 10% 250V
2318	2238 916 15641	22nF 10% 25V 0603
2318	5322 122 32654	22nF 10% 63V
2319	4822 121 43693	10NF 100V
2319	4822 122 30043	10nF 80% 63V
2320	2238 586 59812	100nF 20-80% 50V 0603
2320	2252 648 08032	10nf 20% 500V
2324	4822 121 70581	1.5nF 5% 2kV
2324	4822 121 70594	1nF 5% 2kV
2324	5322 121 44356	4.7nF 5% 2kV
2325	2238 586 59812	100nF 20-80% 50V 0603
2330	4822 157 11499	BLM11P600SPT
2332	4822 126 14507	18pF 5% 50V 0603
2333	4822 126 14507	18pF 5% 50V 0603
2334	4822 126 14507	18pF 5% 50V 0603
2338	4822 121 40518	100nF 10% 250V
2339	4822 121 40518	100nF 10% 250V
2340	4822 121 40518	100nF 10% 250V
2341	2238 586 59812	100nF 20-80% 50V 0603
2342	4822 126 14241	330pF 50V 0603
2347	4822 124 80791	470µF 20% 16V
2348	5322 126 11583	10nF 10% 50V 0603
2358	4822 124 80791	470µF 20% 16V
2359	5322 126 11583	10nF 10% 50V 0603
2403	4822 124 41584	100µF 20% 10V
2404	4822 124 41584	100µF 20% 10V
2405	4822 122 31177	470pF 10% 500V
2408	4822 126 13883	220pF 5% 50V
2409	3198 017 44740	470nF 10V 0603
2410	2238 916 15641	22nF 10% 25V 0603
2410	3198 017 44740	470nF 10V 0603
2411	2238 916 15641	22nF 10% 25V 0603
2411	4822 126 14585	100nF 10% 50V
2412	2222 867 15339	33pF 5% 50V 0603
2420	2222 930 56627	2.2nF 10% 200V 0805
2420	3198 017 44740	470nF 10V 0603
2421	2322 702 60688	6R8 5% 0.062W RC21 0603
2422	4822 121 41856	22nF 5% 250V
2423	4822 121 41856	22nF 5% 250V
2424	2322 702 60688	6R8 5% 0.062W RC21 0603
2425	4822 126 13883	220pF 5% 50V
2428	3198 017 42230	22nF 50V
2435	2020 557 90734	22nF 10% 250V
2436	2020 012 93596	22µF 20% 250V
2437	5322 126 11578	1nF 10% 50V 0603
2438	2222 930 56627	2.2nF 10% 200V 0805
2439	2020 557 90734	22nF 10% 250V
2501	2238 586 59812	100nF 20-80% 50V 0603
2503	2238 586 59812	100nF 20-80% 50V 0603
2505	2238 586 59812	100nF 20-80% 50V 0603
2510	4822 126 14585	100nF 10% 50V
2511	4822 126 14585	100nF 10% 50V

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3300	4822 052 10109	10Ω 5% 0.33W
3301	4822 053 12272	2.7kΩ 5% 3W
3301	4822 117 12517	5.6kΩ 5% 5W
3302	4822 051 30102	1kΩ 5% 0.062W
3303	4822 051 30153	15kΩ 5% 0.062W
3304	4822 052 10102	1k 5% 0.33W
3304	4822 117 11454	820Ω 1% 0,1W
3305	4822 052 10108	1Ω 5% 0.33W
3306	4822 117 13608	4,7R 5% 0603 0,0016W
3307	4822 051 30109	10Ω 5% 0.062W
3308	4822 117 10837	100kΩ 1% 0.1W
3310	4822 051 10102	1kΩ 2% 0.25W
3311	4822 051 30569	56R00 5% 0,062W
3312	4822 051 30222	2.2kΩ 5% 0.062W
3316	4822 117 10837	100kΩ 1% 0.1W
3318	4822 051 30008	Jumper 0603
3318	4822 051 30109	10Ω 5% 0.062W
3319	4822 117 12968	820Ω 5% 0.62W
3323	4822 050 24708	4Ω7 1% 0.6W
3329	4822 050 24708	4Ω7 1% 0.6W
3334	4822 050 11002	1k 1% 0.4W
3335	4822 051 30102	1kΩ 5% 0.062W
3335	4822 051 30471	470Ω 5% 0.062W
3335	4822 117 12968	820Ω 5% 0.62W
3336	4822 051 30102	1kΩ 5% 0.062W
3336	4822 051 30471	470Ω 5% 0.062W
3336	4822 117 12968	820Ω 5% 0.62W
3337	4822 051 30221	220Ω 5% 0.062W
3337	4822 117 12968	820Ω 5% 0.62W
3338	3198 013 01020	1k 2% 0.5W
3338	3198 013 04710	470Ω 20% 0.5W
3339	3198 013 01020	1k 2% 0.5W
3339	3198 013 04710	470Ω 20% 0.5W
3340	3198 013 01020	1k 2% 0.5W
3340	3198 013 04710	470Ω 20% 0.5W
3341	4822 052 10151	150Ω 5% 0.33W
3341	4822 052 11479	47Ω 5% 0.5W
3342	4822 116 83883	470Ω 5% 0.5W
3345	4822 116 52191	33Ω 5% 0.5W
3347	3198 013 01520	1k5 2% 0.5W
3348	4822 117 13016	VDR 1mA/50V
3349	3198 013 01020	1k 2% 0.5W
3350	4822 116 52175	100Ω 5% 0.5W
3350	4822 116 83883	470Ω 5% 0.5W
3351	4822 116 52175	100Ω 5% 0.5W
3351	4822 116 83883	470Ω 5% 0.5W
3352	4822 116 52175	100Ω 5% 0.5W
3352	4822 116 83883	470Ω 5% 0.5W
3354	4822 051 30222	2.2kΩ 5% 0.062W
3355	4822 117 13608	4,7R 5% 0603 0,0016W
3356	4822 051 10102	1kΩ 2% 0.25W
3357	4822 117 13608	4,7R 5% 0603 0,0016W
3358	4822 051 30103	10kΩ 5% 0.062W
3359	4822 051 30103	10kΩ 5% 0.062W
3360	4822 051 30103	10kΩ 5% 0.062W
3370	4822 117 13016	VDR 1mA/50V
3401	4822 053 11101	100Ω 5% 2W
3401	4822 116 52175	100Ω 5% 0.5W
3402	4822 116 52176	10Ω 5% 0.5W
3403	4822 052 10108	1Ω 5% 0.33W
3403	4822 052 11108	1Ω 5% 0.5W
3404	4822 052 10108	1Ω 5% 0.33W
3405	4822 116 52193	39Ω 5% 0.5W
3410	4822 051 30471	470Ω 5% 0.062W
3410	4822 117 13632	100kΩ 1% 0603 0.62W
3411	4822 117 11148	56kΩ 1% 0.1W
3411	4822 117 13632	100kΩ 1% 0603 0.62W
3412	2322 750 61509	Fuse 15Ω 1206 5%
3412	4822 117 11148	56kΩ 1% 0.1W
3413	4822 051 30471	470Ω 5% 0.062W
3413	4822 051 30681	680Ω 5% 0.062W
3414	4822 051 30109	10Ω 5% 0.062W
3416	4822 051 20333	33kΩ 5% 0.1W
3416	4822 116 52193	39Ω 5% 0.5W
3417	4822 051 20333	33kΩ 5% 0.1W
3417	4822 051 30109	10Ω 5% 0.062W
3418	4822 051 30008	Jumper 0603
3419	4822 053 12272	2.7kΩ 5% 3W
3420	2322 702 60688	6R8 5% 0.062W RC21 0603
3420	4822 051 30109	10Ω 5% 0.062W
3421	4822 051 20333	33kΩ 5% 0.1W
3422	4822 051 30008	Jumper 0603
3422	4822 051 30152	1.5kΩ 5% 0.062W
3422	4822 051 30392	3.9kΩ 5% 0.063W 0603
3423	4822 051 20333	33kΩ 5% 0.1W
3424	4822 051 20333	33kΩ 5% 0.1W
3425	4822 051 30152	1.5kΩ 5% 0.062W
3425	4822 051 30392	3.9kΩ 5% 0.063W 0603
3426	4822 051 20333	33kΩ 5% 0.1W
3427	2322 702 60688	6R8 5% 0.062W RC21 0603
3427	4822 051 30109	10Ω 5% 0.062W
3448	4822 051 20333	33kΩ 5% 0.1W
3449	4822 117 11817	1.2kΩ 1% 1/16W
3451	4822 051 30102	1kΩ 5% 0.062W
3453	4822 051 30103	10kΩ 5% 0.062W
3454	4822 051 20333	33kΩ 5% 0.1W
3456	4822 051 30332	3.3kΩ 5% 0.062W
3458	4822 117 12139	22Ω 5% 0.062W
3459	4822 051 30101	100Ω 5% 0.062W
3460	4822 117 12139	22Ω 5% 0.062W
3465	4822 051 30008	Jumper 0603
3471	4822 117 11817	1.2kΩ 1% 1/16W
3473	4822 116 80176	1Ω 5% 0.5W
3474	4822 051 30103	10kΩ 5% 0.062W
3478	4822 116 80176	1Ω 5% 0.5W
3488	4822 051 30008	Jumper 0603
3489	4822 051 30109	10Ω 5% 0.062W
3492	4822 051 30008	Jumper 0603
3501	4822 051 20471	470Ω 5% 0.1W
3502	4822 051 30331	330Ω 5% 0.062W
3506	4822 051 30008	Jumper 0603
3508	4822 051 30008	Jumper 0603
3509	4822 051 30471	470Ω 5% 0.062W
3510	4822 116 52175	100Ω 5% 0.5W
3511	4822 051 20471	470Ω 5% 0.1W
3512	4822 051 30331	330Ω 5% 0.062W
3516	4822 117 13632	100kΩ 1% 0603 0.62W
3517	4822 051 30102	1kΩ 5% 0.062W
3518	4822 051 30008	Jumper 0603
3519	4822 051 30471	470Ω 5% 0.062W
3520	4822 116 52226	560Ω 5% 0.5W
3521	4822 051 20471	470Ω 5% 0.1W
3522	4822 051 30331	330Ω 5% 0.062W
3526	4822 051 30008	Jumper 0603
3528	4822 051 30008	Jumper 0603
3529	4822 051 30471	470Ω 5% 0.062W
3530	4822 116 52226	560Ω 5% 0.5W
3532	4822 051 30008	Jumper 0603
3534	4822 051 30008	Jumper 0603
3535	4822 051 20008	Jumper 0805
3536	4822 051 20008	Jumper 0805
3537	4822 051 20008	Jumper 0805
3539	4822 051 20471	470Ω 5% 0.1W
3541	4822 051 20471	470Ω 5% 0.1W
3543	4822 051 20471	470Ω 5% 0.1W
3544	4822 116 52285	470kΩ 5% 0.5W
3545	4822 051 30109	10Ω 5% 0.062W
3546	4822 051 30109	10Ω 5% 0.062W
3547	4822 051 30109	10Ω 5% 0.062W
3999	4822 051 30392	3.9kΩ 5% 0.063W 0603
3999	4822 051 30472	4.7kΩ 5% 0.062W
3999	4822 051 30562	5.6kΩ 5% 0.063W 0603
3999	4822 051 30682	6.8kΩ 5% 0.062W
3999	4822 117 12902	8.2kΩ 1% 0.063W 0603
9301	4822 051 30008	Jumper 0603
9303	4822 051 30008	Jumper 0603
9305	4822 051 30008	Jumper 0603
9306	4822 051 30008	Jumper 0603
9308	4822 051 30008	Jumper 0603
9314	4822 051 30008	Jumper 0603
9402	2238 930 11523	10pF 5% 200V 0805
9402	4822 051 30008	Jumper 0603
9403	2238 930 11523	10pF 5% 200V 0805
9403	4822 051 30008	Jumper 0603
9404	4822 051 30008	Jumper 0603
9406	4822 051 20008	Jumper 0805
9408	4822 051 30008	Jumper 0603
9409	4822 051 30008	Jumper 0603
9413	4822 051 20008	Jumper 0805
9428	4822 051 30008	Jumper 0603
9432	4822 051 30008	Jumper 0603

9437	4822 051 30008	Jumper 0603
9450	4822 051 20008	Jumper 0805
9452	4822 051 20008	Jumper 0805
9453	4822 051 20008	Jumper 0805
9501	4822 051 30008	Jumper 0603
9502	4822 051 30008	Jumper 0603
9503	4822 051 30008	Jumper 0603

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5300⚠	3104 308 20571	Transformer S13974-03 34'
5304	4822 526 10704	Bead 45Ω at 50MHz
5305	2422 549 42896	Bead 120Ω at 100MHz
5308	4822 157 11867	5.6µH 5%
5309	4822 157 11867	5.6µH 5%
5310	4822 157 50964	100µH 20%
5400	4822 157 11869	33µH 10% LHL08
5400	4822 157 71467	39µH 10%
5500	2722 122 00337	Del. Line 70NS SDL-5135
5501	2722 122 00337	Del. Line 70NS SDL-5135
5502	2722 122 00337	Del. Line 70NS SDL-5135

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6300	4822 130 83757	BAS216
6301	4822 051 20479	47Ω 5% 0.1W
6301	9340 553 52115	BAS321
6302	9340 553 52115	BAS321
6303	9340 553 52115	BAS321
6305	9340 553 52115	BAS321
6306	9340 553 52115	BAS321
6307	9340 553 52115	BAS321
6310	4822 130 11397	BAS316
6401	3139 120 52021	BYV29X-500
6401	4822 130 11397	BAS316
6402	4822 130 11397	BAS316
6403	4822 130 11397	BAS316
6404	4822 130 11397	BAS316
6405	3139 120 52021	BYV29X-500
6407	4822 130 11397	BAS316
6420	5322 130 34337	BAV99
6421	5322 130 34337	BAV99
6422	5322 130 34337	BAV99
6426	4822 130 30613	BAW62
6427	4822 130 30613	BAW62
6428	4822 130 30613	BAW62
6430	9340 548 61115	PDZ12B
6431	4822 130 11397	BAS316
6432	9340 553 52115	BAS321
6500	4822 130 11397	BAS316
6501	4822 130 11397	BAS316
6502	4822 130 11397	BAS316

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7300	5322 130 42718	BFS20
7301	5322 130 42718	BFS20
7302	5322 130 62804	BCP53
7303	5322 130 63033	BCP56
7304	4822 130 60383	BF824
7307	9352 561 40112	TDA6108
7308	5322 130 42718	BFS20
7309	5322 130 62804	BCP53
7310	5322 130 63033	BCP56
7330	9352 694 46112	TDA6118JF/N1
7340	9352 694 46112	TDA6118JF/N1
7350	9352 694 46112	TDA6118JF/N1
7414	5322 130 62804	BCP53
7415	5322 130 63033	BCP56
7422	5322 130 42718	BFS20
7427	5322 130 60159	BC846B
7428	4822 130 60373	BC856B
7429	5322 130 63033	BCP56
7430	5322 130 62804	BCP53
7500	5322 130 42718	BFS20
7502	4822 130 60373	BC856B
7503	5322 130 42718	BFS20
7505	4822 130 60373	BC856B
7506	5322 130 42718	BFS20
7508	4822 130 60373	BC856B

DC Shift Panel [G]

Various

0317	4822 265 20723	Connector 2p m
0318	4822 265 20723	Connector 2p m
1430	2422 086 10581	Fuse 400mA 65V
8317	3104 311 01421	Cable 2p3/220/2p3

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2430	4822 122 31177	470pF 10% 500V
2431	4822 122 31177	470pF 10% 500V

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5430	3128 138 38911	DC-shift coil CU15

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6432	9340 317 00133	BYD33V
6433	9340 317 00133	BYD33V

I/O 3rd SCART Panel [H]

Various

0043	3104 304 21311	Coverplate SCART
1201	2422 025 12493	Connector 10P m h 2.50
1272	2422 025 16601	3p male
1339	4822 265 10838	Socket phono 1P f v 3.5mm
1402	4822 267 10596	Connector 5P
1680	4822 265 31067	Connector 7p m
1937	2422 025 12493	Connector 10P m h 2.50
1952	4822 267 10748	Connector 3p m
1992	2422 025 16725	Connector SCART f m Bk
8201	3104 301 09841	Cable 10P/340/10P Wh
8272	3104 311 03101	Cable 3P/560/3P Bk
8340	3104 311 03101	Cable 3P/560/3P Bk

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2500	2020 552 95344	680nF 20-80% 16V 0805
2502	4822 126 14585	100nF 10% 50V
2503	3198 016 31020	1nF 25V 0603
2504	2020 552 94427	100pF 5% 50v 0603
2508	2020 552 95344	680nF 20-80% 16V 0805
2509	2020 552 94427	100pF 5% 50v 0603
2510	3198 017 41050	1µF 10V 0603
2511	2238 586 59812	100nF 20-80% 50V 0603
2513	4822 126 13883	220pF 5% 50V
2514	4822 126 14585	100nF 10% 50V
2516	2238 586 59812	100nF 20-80% 50V 0603

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3500	4822 117 13574	1.5Ω 5% 1206
3501	4822 051 30102	1kΩ 5% 0.062W
3502	4822 051 30008	Jumper 0603
3507	4822 051 30102	1kΩ 5% 0.062W
3508	4822 051 30008	Jumper 0603
3512	4822 051 30008	Jumper 0603
3512	4822 051 30101	100Ω 5% 0.062W
3517	4822 051 30151	150Ω 5% 0.062W
3518	4822 051 30151	150Ω 5% 0.062W
3520	4822 051 30101	100Ω 5% 0.062W
3521	4822 051 30101	100Ω 5% 0.062W
3526	4822 051 30101	100Ω 5% 0.062W
3529	4822 051 30333	33kΩ 5% 0.062W
3530	4822 051 30102	1kΩ 5% 0.062W
3531	4822 051 30471	470Ω 5% 0.062W
3532	4822 051 30102	1kΩ 5% 0.062W
3532	4822 051 30479	47Ω 5% 0.062W
3533	4822 051 30759	75Ω 5% 0.062W
3534	4822 117 12864	82kΩ 5% 0.6W
3535	4822 051 30102	1kΩ 5% 0.062W
3535	4822 051 30471	470Ω 5% 0.062W
3538	4822 051 30008	Jumper 0603
3540	4822 051 30008	Jumper 0603
3542	4822 051 30008	Jumper 0603
3544	4822 051 30008	Jumper 0603
3546	4822 051 30102	1kΩ 5% 0.062W
3999	4822 051 30222	2.2kΩ 5% 0.062W
3999	4822 051 30272	2.7kΩ 5% 0.062W
9503	4822 051 30008	Jumper 0603
9505	4822 051 20008	Jumper 0805
9507	4822 051 30008	Jumper 0603
9508	4822 051 30008	Jumper 0603
9509	4822 051 30008	Jumper 0603
9510	4822 051 30008	Jumper 0603
9514	4822 051 30008	Jumper 0603
9515	4822 051 30008	Jumper 0603
9516	4822 051 30008	Jumper 0603
9519	4822 051 30008	Jumper 0603
9520	4822 051 30008	Jumper 0603
9521	4822 051 30008	Jumper 0603
9523	4822 051 30008	Jumper 0603
9525	4822 051 30008	Jumper 0603
9526	4822 051 30008	Jumper 0603
9527	4822 051 30008	Jumper 0603
9528	4822 051 30008	Jumper 0603
9529	4822 051 30008	Jumper 0603
9537	4822 051 20008	Jumper 0805
9540	4822 051 30008	Jumper 0603

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6500	4822 130 11416	PDZ6.8B
6501	4822 130 11416	PDZ6.8B
6502	4822 130 11416	PDZ6.8B
6503	4822 130 11416	PDZ6.8B
6504	4822 130 11416	PDZ6.8B
6505	4822 130 11416	PDZ6.8B
6506	4822 130 11416	PDZ6.8B
6507	9340 548 61115	PDZ12B
6509	4822 130 11416	PDZ6.8B
6510	4822 130 11416	PDZ6.8B
6511	4822 130 11416	PDZ6.8B
6512	4822 130 11416	PDZ6.8B

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7501	5322 209 11578	PCF8574T
7508	5322 130 60159	BC846B
7509	4822 130 60373	BC856B
7515	9351 869 40118	74HC4053PW

Horizontal DAF Panel [I]

Various

0034	3104 304 23041	DAF bracket EMGS
1417	4822 265 20723	Connector 2p m
1418	2422 025 16374	Connector 2p m
1419	4822 265 20723	Connector 2p m
1491	3104 311 02452	Cable 1P/340/1P
1492	4822 267 10735	Connector 3p m
1497	4822 267 10973	Connector 1P m
1693	4822 267 10676	Connector 1P
8418	3104 311 01951	CableH 2P3/560mm/2P4

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2800	2222 375 90188	390pF 5% 2kV
2800	2222 375 90498	470pF 5% 2kV
2809	4822 124 40207	100µF 20% 25V
2812	4822 121 70435	10nF 5% 2kV
2813	4822 124 40248	10µF 20% 63V
2814	4822 121 70594	1nF 5% 2kV
2821	2222 479 90166	68nF 5% 400V
2822	4822 121 43856	4.7nF 5% 250V
2824	4822 124 40248	10µF 20% 63V
2825	4822 121 51319	1µF 10% 63V
2890	2222 375 90188	390pF 5% 2kV
2890	2222 375 90276	220pF 5% 2kV

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3807	4822 052 10159	15Ω 5% 0.33W
3808	4822 052 10159	15Ω 5% 0.33W
3809	4822 052 10109	10Ω 5% 0.33W
3810	4822 053 21474	470k 5% 0.5W
3811	4822 053 20475	4M7 5% 0.25W
3812	4822 116 52264	27kΩ 5% 0.5W
3813	4822 116 52285	470kΩ 5% 0.5W
3814	4822 050 21004	100kΩ 1% 0.6W
3815	4822 050 11002	1k 1% 0.4W
3816	4822 116 52256	2k2 5% 0.5W
3818	4822 051 20333	33kΩ 5% 0.1W
3820	4822 051 20008	Jumper 0805
3821	4822 051 20008	Jumper 0805
3822	4822 051 20008	Jumper 0805
3823	4822 117 11139	1.5kΩ 1% 0.1W
3824	4822 051 20333	33kΩ 5% 0.1W
3826	4822 051 20332	3.3kΩ 5% 0.1W
3827	4822 051 20562	5.6kΩ 5% 0.1W 0805
3828	4822 117 10837	100kΩ 1% 0.1W
3830	4822 117 10834	47kΩ 1% 0.1W
3831	4822 051 20472	4.7kΩ 5% 0.1W
3832	4822 051 20182	1.8kΩ 5% 0.1W
3833	4822 051 20472	4.7kΩ 5% 0.1W
3898	4822 116 21211	VDR 420V
3898	4822 116 21239	VDR 1mA/612V
3899	4822 116 21211	VDR 420V
3899	4822 116 21239	VDR 1mA/612V
3998	4822 050 11002	1k 1% 0.4W
3998	4822 116 52207	1k2 5% 0.5W

5800	2422 531 02437	Transformer S21975-03
5801	2422 531 02435	Transformer C948-02
5801	8228 001 34391	Driver Transformer CU15
5810	3128 138 40041	Transformer CU15B

6810	9340 317 00133	BYD33V
6812	4822 130 34441	BZX79-B22

7810	9322 136 03687	STP3NB80FP
7818	5322 130 60159	BC846B
7822	5322 130 60159	BC846B
7823	4822 130 60373	BC856B

Side I/O Panel [O]

Various

0077	3104 304 23481	Bracket side I/O FL11
0240	2422 025 12485	Connector 11p m
0306	3139 124 31651	Side I/O Bracket PV2
1016	3104 328 17361	SIDE I/O EMGS FL11 HD
1254	4822 267 31014	Socket headphone
1255	4822 265 11606	3p
1256	2422 026 04926	Socket 4P
1326	4822 267 10975	Connector 3p
1327	4822 267 31014	Socket headphone
1328	2422 026 05133	Connector SVHS 4p f
1936	2422 025 12485	Connector 11p m
8936	3104 311 05271	Cable 11P/820/11P UL

2286	4822 122 33642	150pF 5% 50V
2288	4822 122 33642	150pF 5% 50V
2292	5322 122 32311	470pF 10% 100V
2294	5322 122 32311	470pF 10% 100V
2296	4822 122 31125	4.7nF 20% 63V
2297	4822 122 31125	4.7nF 20% 63V
2803	5322 126 10733	680pF 5% 50V
2804	5322 122 32531	100pF 5% 50V
2805	5322 122 32531	100pF 5% 50V
2806	5322 126 10733	680pF 5% 50V
2807	4822 126 14076	220nF 25V. 20%
2813	4822 124 22652	2.2µF 20% 50V
2832	4822 122 33177	10nF 20% 50V
2832	5322 122 31863	330pF 5% 63V
2834	4822 122 33177	10nF 20% 50V
2834	5322 122 31863	330pF 5% 63V
2840	4822 122 33177	10nF 20% 50V
2840	5322 126 10733	680pF 5% 50V
2841	4822 122 33177	10nF 20% 50V
2841	5322 126 10733	680pF 5% 50V

3285	4822 116 52201	75Ω 5% 0.5W
3286	4822 116 52176	10Ω 5% 0.5W
3287	4822 116 52201	75Ω 5% 0.5W
3288	4822 116 52176	10Ω 5% 0.5W
3291	4822 050 11002	1k 1% 0.4W
3292	4822 117 10834	47kΩ 1% 0.1W
3293	4822 050 11002	1k 1% 0.4W
3294	4822 117 10834	47kΩ 1% 0.1W
3295	4822 116 52175	100Ω 5% 0.5W
3296	4822 117 10833	10kΩ 1% 0.1W
3297	4822 117 10833	10kΩ 1% 0.1W
3801	4822 117 11927	75Ω 1% 0.1W
3802	4822 116 52201	75Ω 5% 0.5W
3803	4822 050 11002	1k 1% 0.4W
3804	4822 050 11002	1k 1% 0.4W
3808	4822 051 20008	Jumper 0805
3809	4822 051 20008	Jumper 0805
3814	4822 117 10833	10kΩ 1% 0.1W
3816	4822 051 20008	Jumper 0805
3826	4822 116 52199	68Ω 5% 0.5W
3826	4822 116 52206	120Ω 5% 0.5W
3827	4822 116 52199	68Ω 5% 0.5W
3827	4822 116 52206	120Ω 5% 0.5W
3828	4822 116 52199	68Ω 5% 0.5W
3828	4822 116 52206	120Ω 5% 0.5W
3829	4822 116 52199	68Ω 5% 0.5W
3829	4822 116 52206	120Ω 5% 0.5W
3830	4822 050 21003	10kΩ 1% 0.6W
3835	4822 116 52175	100Ω 5% 0.5W
3842	4822 050 21003	10kΩ 1% 0.6W
4201	4822 051 20008	Jumper 0805
4241	4822 051 20008	Jumper 0805
4243	4822 051 20008	Jumper 0805
4800	4822 051 20008	Jumper 0805
4801	4822 051 20008	Jumper 0805
4802	4822 051 20008	Jumper 0805
4803	4822 051 20008	Jumper 0805

6291	9340 548 61115	PDZ12B
6292	9340 548 61115	PDZ12B
6293	9340 548 61115	PDZ12B
6294	9340 548 61115	PDZ12B
6296	9340 548 61115	PDZ12B
6297	9340 548 61115	PDZ12B
6801	9322 129 38685	BZM55-C6V8
6802	9322 129 38685	BZM55-C6V8
6803	9322 129 40685	BZM55-C10
6804	9322 129 40685	BZM55-C10
6805	9322 129 40685	BZM55-C10
6806	9322 129 40685	BZM55-C10
6807	9322 129 38685	BZM55-C6V8
6808	9322 129 38685	BZM55-C6V8

Top Control Panel [P]

Various

0055	3104 307 98241	Top control keypad FL11
0056	3104 307 97611	Top control FL11
0057	3104 304 23431	Topcontrol bottom FL11
0135	3104 311 01401	Cable 3p/1500/3p
0215	4822 267 10748	Connector 3p m
0342	3139 124 39172	Top control bracket
0346	4822 267 10748	Connector 3p m
1091	4822 276 13775	Switch
1092	4822 276 13775	Switch
1093	4822 276 13775	Switch
1094	4822 276 13775	Switch
1095	4822 276 13775	Switch
1701	2422 128 02778	Tact switch
1702	2422 128 02778	Tact switch
1703	2422 128 02778	Tact switch
1704	2422 128 02778	Tact switch
1705	2422 128 02778	Tact switch
8346	3104 301 07771	Cable 3P 1200mm white
8346	3104 311 01401	Cable 3p/1500/3p

2010	4822 122 33177	10nF 20% 50V

3001	4822 051 20391	390Ω 5% 0.1W
3003	4822 117 13528	200Ω 1% 0.125W 0805
3005	4822 117 11951	2kΩ 1% 0.1W
3009	4822 117 11534	1.1kΩ 1% 0.1W
3011	4822 117 10845	620Ω 1% 0.1W
3088	4822 117 11951	2kΩ 1% 0.1W
3089	4822 117 11534	1.1kΩ 1% 0.1W
3090	4822 117 10845	620Ω 1% 0.1W
3091	4822 051 30008	Jumper 0603
3092	4822 051 30008	Jumper 0603
3093	4822 051 30008	Jumper 0603
3094	4822 051 30008	Jumper 0603
3095	4822 051 30391	390Ω 5% 0.062W
3096	4822 117 13528	200Ω 1% 0.125W 0805
3999	4822 051 20471	470Ω 5% 0.1W
4001	4822 051 20008	Jumper 0805
4003	4822 051 20008	Jumper 0805
4005	4822 051 20008	Jumper 0805
4006	4822 051 20008	Jumper 0805

Auto Scavem [SC]

Various

1440	2422 025 12485	Connector 11p m
1940	2422 025 12485	Connector 11p m
1955	4822 267 10735	Connector 3p m
8440	3104 311 05882	Cable 11P/400/11P ferr.

2000	4822 126 14223	2.2pF +-0.25pF 50V 0603
2002	4822 126 13887	4.7pF 50V
2003	4822 126 13887	4.7pF 50V
2004	3198 016 31080	1pF 25% 50V 0603
2006	2238 586 59812	100nF 20-80% 50V 0603
2008	2238 916 15641	22nF 10% 25V 0603
2010	2238 586 59812	100nF 20-80% 50V 0603
2012	2238 916 15641	22nF 10% 25V 0603
2014	2238 916 15641	22nF 10% 25V 0603
2016	4822 122 33741	10pF 10% 50V
2020	2238 916 15641	22nF 10% 25V 0603
2038	2238 916 15641	22nF 10% 25V 0603
2040	4822 126 14225	56pF 5% 50V 0603
2041	5322 122 32163	5,6PF0,25PF 100V
2208	4822 124 41584	100µF 20% 10V
2600	4822 124 80791	470µF 20% 16V
2602	5322 122 32654	22nF 10% 63V
2605	3198 017 41050	1µF 10V 0603
2607	5322 122 32654	22nF 10% 63V

3000	4822 051 30101	100Ω 5% 0.062W
3002	4822 051 30101	100Ω 5% 0.062W
3004	4822 051 30101	100Ω 5% 0.062W
3006	4822 051 30102	1kΩ 5% 0.062W
3008	4822 051 30102	1kΩ 5% 0.062W
3010	4822 051 30102	1kΩ 5% 0.062W
3012	4822 051 30332	3.3kΩ 5% 0.062W
3014	4822 117 12903	1.8kΩ 1% 0.063W 0603
3016	4822 117 12902	8.2kΩ 1% 0.063W 0603
3018	4822 051 30681	680Ω 5% 0.062W
3020	4822 051 30471	470Ω 5% 0.062W
3022	4822 051 30393	39kΩ 5% 0.062W
3024	4822 051 30273	27kΩ 5% 0.062W
3028	4822 051 30223	22kΩ 5% 0.062W
3030	4822 051 30683	68kΩ 5% 0.062W
3032	4822 117 12903	1.8kΩ 1% 0.063W 0603
3034	4822 051 30222	2.2kΩ 5% 0.062W
3036	4822 051 30332	3.3kΩ 5% 0.062W
3038	4822 051 30561	560Ω 5% 0.062W
3040	4822 117 12925	47kΩ 1% 0.063W 0603
3042	4822 051 30682	6.8kΩ 5% 0.062W
3044	4822 051 30102	1kΩ 5% 0.062W
3046	4822 051 30102	1kΩ 5% 0.062W
3048	4822 051 30102	1kΩ 5% 0.062W
3050	4822 051 30561	560Ω 5% 0.062W
3052	4822 051 30561	560Ω 5% 0.062W
3054	4822 051 30102	1kΩ 5% 0.062W
3056	4822 051 30102	1kΩ 5% 0.062W
3058	4822 051 30471	470Ω 5% 0.062W
3060	4822 051 30471	470Ω 5% 0.062W
3062	4822 051 30222	2.2kΩ 5% 0.062W
3064	4822 117 12971	15Ω 5% 0.62W 0603
3066	4822 117 12902	8.2kΩ 1% 0.063W 0603
3068	4822 051 30681	680Ω 5% 0.062W
3070	4822 117 12902	8.2kΩ 1% 0.063W 0603
3072	4822 051 30152	1.5kΩ 5% 0.062W
3074	4822 051 30101	100Ω 5% 0.062W
3076	4822 117 11817	1.2kΩ 1% 1/16W
3078	4822 051 30102	1kΩ 5% 0.062W
3093	4822 051 30152	1.5kΩ 5% 0.062W
3106	4822 051 30472	4.7kΩ 5% 0.062W
3108	4822 051 30273	27kΩ 5% 0.062W
3110	4822 051 30392	3.9kΩ 5% 0.063W 0603
3112	4822 051 30222	2.2kΩ 5% 0.062W
3114	4822 051 30101	100Ω 5% 0.062W
3116	4822 051 30102	1kΩ 5% 0.062W
3118	4822 051 30103	10kΩ 5% 0.062W
3120	4822 051 30103	10kΩ 5% 0.062W
3500	4822 051 30101	100Ω 5% 0.062W
3502	4822 051 30101	100Ω 5% 0.062W
3600	4822 117 13574	1.5Ω 5% 1206
3999	4822 051 30102	1kΩ 5% 0.062W
9000	4822 051 30008	Jumper 0603
9002	4822 051 30008	Jumper 0603
9010	4822 051 30008	Jumper 0603
9020	4822 051 30008	Jumper 0603
9033	4822 116 52175	100Ω 5% 0.5W
9045	4822 051 30008	Jumper 0603
9046	4822 051 30008	Jumper 0603
9047	4822 051 30008	Jumper 0603

5600	4822 157 11867	5.6µH 5%
5601	4822 157 11867	5.6µH 5%

6000	5322 130 80119	BBY40

7000	4822 130 60373	BC856B
7002	4822 130 60373	BC856B
7004	4822 130 60373	BC856B
7006	5322 130 42718	BFS20
7008	4822 130 60373	BC856B
7010	5322 130 42718	BFS20
7012	5322 130 42718	BFS20
7014	4822 130 60383	BF824
7016	5322 130 42718	BFS20
7018	5322 130 42718	BFS20
7020	4822 130 60383	BF824
7022	5322 130 42718	BFS20
7024	5322 130 42718	BFS20
7026	5322 130 42718	BFS20
7040	5322 130 42718	BFS20
7042	4822 130 60383	BF824
7500	5322 209 90559	TDA8444T/N4

11. Revision List

First release